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FULFILLING THE BARGAIN: HOW THE SCIENCE OF ERGONOMICS CAN INFORM THE LAWS OF WORKERS' COMPENSATION

Jason M. Solomon

In the last decade, cumulative trauma disorders have become a significant percentage of reported workplace injuries and litigated workers' compensation claims. Arising from the accumulated impact of daily work activities on the body, these injuries do not fall neatly within either the "accident" or "disease" categories which comprise workers' compensation laws. As a result, courts and legislatures have struggled to properly evaluate workers' compensation claims for these injuries. This Note looks at the legal treatment of cumulative trauma injuries in light of the "original bargain" of workers' compensation, where workers give up a tort remedy against their employers in exchange for guaranteed, but limited, compensation for work-related injuries. In doing so, this Note undertakes a comprehensive comparison of litigated cumulative trauma cases in the tort and workers' compensation systems. Ultimately, this Note argues that judges must use the original bargain as an interpretative lens when deciding cumulative trauma cases, and points to ergonomics—the science of the workplace—as a significant new tool for determining whether such injuries are work-related.

INTRODUCTION

It has been called the "the No. 1 occupational hazard of the 1990s"¹ and the "disease of the information age."² The injury is known as cumulative trauma disorder (CTD),³ or repetitive strain injury (RSI), and it became the fastest-growing occupational injury or disease by the end of

1. Dramatic Rise in Repetitive Motion Injuries and OSHA's Response: Before the Subcomm. on Unemployment and Housing of the House Comm. on Government Operations, 101st Cong. 1 (1989) (opening statement of Tom Lantos, Chairman, House Comm. on Gov't Operations).

2. David Anderson, RSI Can Strain the Bottom Line, *Bus. & Health*, Jan. 1, 1998, at 44; see also Stephanie Armour, Young Tech Workers Face Crippling Injuries, *USA Today*, Feb. 9, 2001, at 1B (referring to some repetitive injuries as "Silicon Valley syndrome"). Though the increased attention to repetitive stress injuries may in part be the result of the spread of the affliction to white-collar workers, the injury itself has existed for years. *Infra* note 31. In fact, it tends to be most common among certain blue-collar workers such as meatpackers, nursing aides, truck drivers and grocery workers. Bureau of Labor Statistics, *Lost-Worktime Injuries and Illnesses: Characteristics and Resulting Time Away from Work*, 1999, at 4–5 (2001) [hereinafter *Lost-Worktime Injuries*].

3. CTDs are commonly understood as injuries that can result from chronic and repeated stress of a muscle, tendon or nerve. Carpal tunnel syndrome is a common type of CTD. One commentator provides the following examples of workplace injuries that are generally characterized as CTDs: "a newspaper reporter's hand aches after many hours at a computer keyboard; a butcher experiences intense wrist pain while cutting meat; a housekeeper awakens in the middle of the night with numb fingers following a hard day of scrubbing floors." Allard E. Dembe, *Occupation and Disease: How Social Factors Affect the Conception of Work-Related Disorders* 24 (1996).

the twentieth century. CTDs now account for greater than 60% of all occupational illnesses in the United States, afflicting an estimated 1.8 million American workers per year,⁴ and the annual compensable costs for these disorders is estimated to be \$20 billion.⁵ Further, CTDs make up a significant portion of workers' compensation claims⁶ and tend to be the most frequently litigated of all workers' compensation claims, often leading to significant delays for the injured employee in receiving medical care.⁷

Meanwhile, as workers' compensation claims for such injuries have grown, the business community and insurance industry have lobbied state legislatures to reduce the "burden" of such claims on employers and insurance companies. In turn, many state legislatures have amended workers' compensation statutes to restrict the compensability of such claims—acting to combat the perception of a spiraling "cost crisis" in the workers' compensation system.⁸

The medical and legal literature often uses the terms "cumulative trauma disorder," "repetitive stress injury," and "work-related musculoskeletal disorder" interchangeably. This Note will primarily use "cumulative trauma disorder" or the acronym "CTD."

4. Eve Tahmincioglu, *Battling Job-Related Aches and Pains*, N.Y. Times, Jan. 3, 2001, at G1.

5. Awwad J. Dababneh et al., *Impact of Added Rest Breaks on the Productivity and Well Being of Workers*, 44 *Ergonomics* 164, 164 (2001) (citing Bureau of Labor Statistics data). The Occupational Safety and Health Administration (OSHA) estimates that musculoskeletal disorders account for \$1 out of every \$3 in workers' compensation costs. Occupational Safety & Health Admin., U.S. Dep't of Labor, *Ergonomics: The Study of Work 4* (2000), available at www.osha-slc.gov/Publications/Osha3125.pdf (last visited Mar. 30, 2001). The high cost of such injuries is in part due to the fact that the average missed work days for CTDs far exceeds that for the average occupational illness or injury. See *Lost-Worktime Injuries*, supra note 2, at 4 ("Repetitive motion, such as grasping tools, scanning groceries, and typing, resulted in the longest absences from work among the leading events and exposures. . . ."); Robin Herbert et al., *Carpal Tunnel Syndrome and Workers' Compensation Among an Occupational Clinic Population in New York State*, 35 *Am. J. Indus. Med.* 335, 336 (1999) (citing a 1996 National Council on Compensation Insurance study of forty states that reported 2.5 times more missed work days on average for CTD claimants than for those with other illnesses and injuries).

6. See Emily A. Spieler, *Perpetuating Risk? Workers' Compensation and the Persistence of Occupational Injuries*, 31 *Hous. L. Rev.* 119, 149 n.113 (1994) (citing a survey by one major insurer that showed that forty-five percent of claim payments were for CTDs).

7. A recent study found that nearly 80% of workers' compensation claimants with carpal tunnel syndrome had their claim challenged by the insurance company or received no response at all. Herbert et al., supra note 5, at 340. Indeed, many challenged CTD claims take more than a year to resolve. *Id.*

8. See Press Release, Nat'l Acad. of Soc. Ins., *Academy Launches Review of Workers' Compensation: Research Initiative Will Track Medical Costs* (May 5, 1997) (referring to the "confused and emotional national situation involving workers' benefits and employers' costs"), available at www.nasi.org/Press%20Releases/Worker's%20Comp/wcpress.htm (last visited Mar. 30, 2001). As a percentage of covered payroll, both benefit payments and costs have declined sharply from the all-time highs during the 1990s: Benefits declined by 35% from 1.66% to 1.08% of covered payroll between 1992 and 1998, while costs to employers declined by 38% from 2.17% to 1.35% of payroll between 1993 and 1998. See

While the number of reported cumulative trauma injuries has grown, a new and valuable discipline surrounding workplace design—commonly known as “ergonomics”⁹—has become available to employers in order to prevent such injuries. Ergonomics encompasses such traditional “preventive” measures as employee education on proper posture, as well as more significant changes that include job rotation to minimize the risk of injury for repetitive motion, hiring more workers, and slowing down the rate of production. Several studies of ergonomics in individual workplaces show that ergonomic changes have increased worker productivity by up to 25%, and have reduced the cost of sick leave, staff turnover, and workers’ compensation.¹⁰ Since ergonomics was first introduced to industry, it has become a staple of occupational health and safety for

Nat’l Acad. of Soc. Ins., *Workers’ Compensation: Benefits, Coverage, and Costs, 1997–1998 New Estimates 1–2* (2000), available at <http://www.nasi.org/workcomp/1997-98Data/wc97-98rpt.htm> (last visited Mar. 30, 2001) [hereinafter Nat’l Acad. of Soc. Ins., 1997–1998 Workers’ Compensation]. This report also indicates that a tightening of eligibility for workers’ compensation benefits was one of several likely factors behind this decline in costs. *Id.* at 30.

9. Ergonomics, the new applied science for the workplace, is broadly defined as “[t]he science relating to man and his work.” *Stasior v. Nat’l R.R. Passenger Corp.*, 19 F.Supp. 2d 835, 847 (N.D. Ill. 1998) (citing *Dorland’s Illustrated Medical Dictionary* 574 (W.B. Saunders Co., 28th ed. 1994)).

10. See, e.g., *Occupational Safety & Health Admin., U.S. Dep’t of Labor, Ergo Success Stories: Saving Resources—Time, Money, Health* (2000) available at www.osha-slc.gov/ergonomics-standard/informationkit/successstories.pdf (last visited Mar. 30, 2001) (describing elements of ergonomics programs at several private-sector employers); U.S. Gen. Accounting Office, *Worker Protection: Private Sector Ergonomics Programs Yield Positive Results, Report# HEHS-97-163*, (Aug. 1997) (same); Kenneth Bredemeier & Sarah Schafer, *Firms Get a Grip on ‘Repetitive’ Injuries*, *Wash. Post*, Mar. 18, 2001, at H1 (noting the efforts of the supermarket chain Stop & Shop to redesign jobs based on employee feedback, and train workers on ways to prevent CTDs); Ctr. for Workplace Health Info., *Big, Small Firms Show How Ergo Programs Make Cents*, 5 *CTD News* 1 (1996) (using annual “best practices” issue to describe the successful ergonomics efforts of a range of companies).

Increasingly, unions are working with employers to implement such programs. See, e.g., *Hendricks-Robinson v. Excel Corp.*, 154 F.3d 685, 688 n.4 (7th Cir. 1998) (describing a 1989 agreement between Excel and the United Food and Commercial Workers Union initiating an ergonomics program in Excel’s meatpacking plant in Beardstown, Illinois); Paul S. Adler et al., *Ergonomics, Employee Involvement, and the Toyota Production System: A Case Study of NUMMI’s 1993 Model Introduction*, 50 *Indus. & Lab. Rel. Rev.* 416, 430–32 (1997) (assessing the role of the UAW as one factor that influenced ergonomic outcomes in the General Motors-Toyota joint venture in Fremont, California); N.Y. Comm. on Occupational Safety & Health, *NYCOSH Update*, Dec. 15, 2000 (describing the success of the union UNITE! in bargaining for an ergonomics standard that would apply to 4,000 commercial laundry workers in New York), available at <http://www.nycosh.org> (last visited Mar. 30, 2001); *Occupational Safety & Health Admin., U.S. Dep’t of Labor, Ergonomics Programs Prevent Injuries, Save Money*, available at www.osha-slc.gov/SLTC/ergonomics/ergofilm.html (last visited Mar. 30, 2001) (describing the successful efforts of the union at Navistar’s diesel engine plant in Illinois to create an ergonomics program).

many employers,¹¹ as well as an increased focus of governmental attention.¹² In 1990, Secretary of Labor Elizabeth Dole proposed developing an ergonomic standard for employers, and despite strong resistance from the business community and Republicans in Congress, the standard was finally promulgated in the closing days of the Clinton Administration.¹³ But after the election of President George W. Bush, the Republican-controlled Congress acted quickly to repeal the regulations, using the 1996 Congressional Review Act for the first time to overturn an agency rule.¹⁴ The bill was signed by President Bush as the first major law of his presidency.¹⁵

This Note argues that judges in workers' compensation cases should use ergonomic evidence and the lens of the original workers' compensation "bargain" in deciding close cases about "work-relatedness." As it is commonly understood, state statutes creating workers' compensation consist of a bargain between employees and employers: Employees gave up their common-law right to sue employers in tort for workplace injuries, but were guaranteed a right to recovery under workers' compensa-

11. According to OSHA, three-quarters of businesses with 500 or more employees have analyzed ergonomic hazards and taken some steps to decrease the risk of CTDs, but fewer than 30% of employers with 20 or fewer employees have taken such steps. See Statement of LPA The Ergonomics Rule: OSHA's Interface with State Workers' Compensation Laws: Hearing Before the Subcomm. on Employment, Safety, and Training of the S. Health, Education, Labor and Pensions Comm., 106th Cong. 2 (2000) (statement of Charles N. Jeffress, Asst. Sec'y for Occupational Safety and Health, U.S. Dep't of Labor).

12. Since the late 1980s, OSHA has fined employers for ergonomic violations accompanied by evidence of a high rate of cumulative trauma injuries. In 1988, OSHA levied a \$3.1 million fine against IBP, the nation's largest meat packer, for exposing 20% of its employees to the risk of developing CTDs. John Morrell & Company, another meat packer, was fined \$4.3 million for similar reasons. William J. Maakestad & Charles Helm, Promoting Workplace Safety and Health in the Post-Regulatory Era: A Primer on Non-OSHA Legal Incentives that Influence Employer Decisions to Control Occupational Hazards, 17 N. Ky. L. Rev. 9, 10-11 (1989).

Similar actions by OSHA resulted in agreements with all of the Big Three auto companies—General Motors, Ford, and Chrysler—to implement comprehensive ergonomic programs in order to reduce occupational injury rates. After employers challenged OSHA's authority to issue citations for ergonomic violations, the Occupational Health and Safety Commission held that ergonomic problems were "recognized hazards" that employers had a "general duty" to avoid. See Sec'y of Labor v. Pepperidge Farm Inc., 17 O.S.H. Cas. (BNA) 1993 (OSHRC 1997) (holding that ergonomics hazards, in particular lifting and repetitive motion, may be cited under the general duty clause of Occupational Safety and Health Act). The question of the applicability of the "general duty" clause of the Occupational Health and Safety Act to ergonomic violations took several years to reach the courts because the fines imposed by OSHA employers for ergonomic violations generally induced employers to settle, rather than challenge OSHA through the courts. David J. Kolesar, Note, Cumulative Trauma Disorders: OSHA's General Duty Clause and the Need for an Ergonomics Standard, 90 Mich. L. Rev. 2079, 2088-89 (1992).

13. Ergonomics Program Standard, 29 C.F.R. §1910.900 (2000).

14. Pub. L. No. 107-5 (March 20, 2001).

15. Statement by the President, The White House, Office of the Press Secretary (Mar. 20, 2001).

tion without having to prove fault, while employers agreed to more certain recovery by employees for work-related injuries, but with a limit on damages. An analysis of cases in workers' compensation and tort, however, reveals that this bargain is betrayed for workers with CTDs, with claimants in tort often finding it easier to prove liability as compared to those receiving workers' compensation. Ultimately, this Note proposes an ergonomics-based burden-shifting framework that achieves the initial intent of workers' compensation while taking advantage of contemporary advances in science and health.

Part I explores the "original bargain" of workers' compensation, its common-law roots, and its subsequent expansion to cover illnesses and injuries beyond the paradigmatic industrial accident. Part II looks closely at the case law surrounding proof of causation for CTDs, focusing specifically on the differential treatment under workers' compensation laws and the common-law tort system. Part III argues for the importance of using the "original bargain" lens in interpreting workers' compensation laws and considers how ergonomics can inform this analysis. Part III ultimately puts forward a specific burden-shifting framework that uses ergonomic principles to help assess the "work-relatedness" of CTDs in workers' compensation cases.

I. THE ORIGINAL BARGAIN: STATE WORKERS' COMPENSATION REGIMES

In the nineteenth century, employers had no responsibility to compensate employees for harm suffered in the workplace. At that time, it was thought that taking any job meant that the worker assumed the risk of injury, particularly if it was an expected occupational hazard.¹⁶ This consensus changed in the late nineteenth century, when railroads were being built and workers were being injured in the process.¹⁷ Under the fault-based tort system, plaintiffs experienced occasional success before juries in recovering large damage awards.¹⁸ As a result of these develop-

16. See Russell Furbee Ethridge, Note, *Workmen's Compensation: The Cumulative Injury Doctrine*, 81 W. Va. L. Rev. 435, 439 (1979) ("[I]t was generally not considered negligent to allow an employee to work in an unhealthy environment if this environment was a normal condition of the industry."); Caroline Mitchell, *Products Liability, Workmen's Compensation and the Industrial Accident*, 14 Duq. L. Rev. 349, 350 (1976) ("Despite the lack of any conscious, voluntary choice on the part of an employee to subject himself to an occupational hazard, he had no right to collect for an injury arising from dangers normally incident to his employment.").

17. See Lawrence M. Friedman & Jack Ladinsky, *Social Change and the Law of Industrial Accidents*, 67 Colum. L. Rev. 50, 52 (1967) ("The explosive growth of tort law was directly related to the rapidity of industrial development. The staple source of tort litigation was and is the impact of machines—railroad engines, then factory machines, then automobiles—on the human body."). Railroads accounted for more serious industrial accidents than any other enterprise in the middle of the nineteenth century. *Id.* at 60 n.34.

18. Although it was still highly uncertain that plaintiffs would recover, the large jury verdicts in cases of recovery meant that litigation presented a serious risk for employers. Nat'l Acad. of Soc. Ins., *1997–1998 Workers' Compensation*, *supra* note 8, at 3 ("Under the

ments, employers pushed to create a workers' compensation system in order to limit and make more predictable the amount of damages paid out. By 1920, all but seven states had enacted workers' compensation laws, and today, each of the fifty states and the District of Columbia has its own program.¹⁹

The workers' compensation "bargain" between employers and employees was intended to be simple: In exchange for immunity from tort actions, employers would provide employees with swift, though limited, compensation for work-related injuries.²⁰ Both sides gained from this trade-off.²¹ Employers received a measure of protection from sizable jury verdicts for workplace injuries, while employees significantly increased

tort system, workers often did not recover damages and sometimes experienced delays or high costs when they did. While employers generally prevailed in court, they nonetheless were at risk for substantial and unpredictable losses if the workers' suits were successful."); Terry Thomason et al., *Workers' Compensation: Benefits, Costs, and Safety Under Alternative Insurance Arrangements* 5 (2001) ("On those infrequent occasions when employees did win these lawsuits, employers sometimes had to pay substantial cash awards.").

19. Nat'l Acad. of Soc. Ins., 1997-1998 Workers' Compensation, *supra* note 8, at 2. Much has been written about the history of workers' compensation laws and their common-law roots. For a good start, see generally James R. Chelius, *Liability for Industrial Accidents: A Comparison of Negligence and Strict Liability Systems*, 5 *J. Legal Stud.* 293, 298-301 (1976) (discussing rise of workers' compensation as a move from a negligence regime to one of "shared strict liability"); Richard A. Epstein, *The Historical Origins and Economic Structure of Workers' Compensation Law*, 16 *Ga. L. Rev.* 775, 775 (1982) (discussing the stages of development of workers' compensation systems); Friedman & Ladinsky, *supra* note 17, at 52 (using the development of workers' compensation as a case study for the relationship between social change and the development of the law); Arthur Larson, *The Nature and Origins of Workmen's Compensation*, 37 *Cornell L.Q.* 206, 206 (1952) (describing the history and characteristics of workers' compensation); John Fabian Witt, Note, *The Transformation of Work and the Law of Workplace Accidents, 1842-1910*, 107 *Yale L.J.* 1467, 1484-96 (1998) (examining the development of workers' compensation in light of the changing character and conception of work).

20. Before workers' compensation statutes had been passed, the New York Employers' Liability Commission, in 1910, reported that delay for an injured worker receiving compensation, either directly from his employer or after a court ruling, ran from six months to six years. See Friedman & Ladinsky, *supra* note 17, at 66.

21. See *Boggs v. Blue Diamond Coal Co.*, 590 F.2d 655, 659 (6th Cir. 1979) (calling the common-law remedies exchanged in the original bargain "of dubious value"); see also Ellen R. Peirce & Terry Morehead Dworkin, *Workers' Compensation and Occupational Disease: A Return to Original Intent*, 67 *Or. L. Rev.* 649, 653 (1988). Peirce and Morehead write:

The legal theory most often used to describe the rationale for the workers' compensation system is the social compromise theory, providing that both employers and employees gained and lost rights when workers' compensation replaced employers' tort liability. The employer compromised by waiving all of its common-law defenses to a claim, and by compensating workers for all job-related injuries irrespective of fault; the worker compromised by waiving the right to maintain a tort action against the employer, and by accepting a more certain but smaller, often predetermined amount of money as compensation for an injury.

Id. (footnotes omitted); see, e.g., Alice M. Thomas, *The Law of Workers' Compensation: Defining Accidental Injury*, 30 *How. L.J.* 515, 515 (1987) (stating that drafters of federal

their chance of receiving compensation.²² Employers could no longer try to demonstrate that they were not at fault, or assert one of the “unholy trinity” of affirmative defenses—assumption of risk, contributory negligence, and the fellow-servant rule.²³ Both sides lost something as well, of course: Employees necessarily capped their potential compensation,²⁴ and employers—at least in theory—agreed to compensate workers more readily.²⁵ Both sides also achieved a measure of predictability: Employees ostensibly received a guarantee of compensation, employers could purchase insurance at fixed prices to cover the costs of workplace injuries, and both sides—along with society—avoided the transaction costs and uncertainty of litigation.²⁶ This balancing embraced the original bargain.

and state workers’ compensation statutes “successfully reached a compromise” between employers and employees).

22. Friedman & Ladinsky, *supra* note 17, at 69 (“In exchange for certainty of recovery by the worker, the companies were prepared to demand certainty and predictability of loss—that is, limitation of recovery.”).

23. *Id.* at 70.

24. Less commented on in discussions of the “original bargain” is that employees gave up the ability to have their right to compensation determined by a jury. Most commentators treat this simply as a matter of dollars—jury verdicts are likely to be higher than administrative law judges’ awards. But there is also the difference of jury members being more likely to identify with the claimant and understand the realities of the work environment and the physical demands of many blue-collar jobs. For a rare example of an administrative law judge’s personal identification with the claimant appearing to play a role in awarding compensability, see *Blaser v. Country Club of Beloit*, Claim No. 1996052288, 1998 WI Wrk. Comp. LEXIS 243, at *16–*18 (Wis. Labor & Indus. Review Comm’n July 29, 1998). In *Blaser*, the judge wrote:

This particular ALJ has used this kind of a mop on the job, in high school while ‘swabbing the deck’ in a restaurant kitchen and in the U.S. Army while mopping the mess hall and kitchen and barracks floors. Even these fairly limited experiences remind one of the amount of force and energy in the hands and wrists needed to get the floors mopped and cleaned in a manner satisfactory to a demanding overseer. . . . Like Mr. Blaser’s use of what I infer was an electrical floor buffer, I used this kind of buffer myself years ago; and I can still recall the amount of power needed in my hands and wrists to keep it under control, as it were.

Id.

25. After New York passed its workers’ compensation law, insurance companies raised their rates considerably—indicating the belief that employers’ costs would be higher under workers’ compensation as compared to the common law. Witt, *supra* note 19, at 1485. Subsequent studies have indicated that workers’ compensation did in fact have the effect of raising the cost of work accidents to employers. See Mark Aldrich, *Safety First: Technology, Labor, and Business in the Building of American Work Safety, 1870–1939*, at 96–97, 344 n.49 (1997).

26. Transaction and litigation costs are actually often quite high in workers’ compensation cases, undermining one of the main goals of the original “bargain.” See, e.g., *Williams Co. v. Lawrence*, 824 P.2d 1134, 1137 (Okla. 1992) (“We are not unmindful of the significant length of time many of these cases necessitate to reach a final adjudication.”); *Zurn Indus. v. Workers’ Comp. Appeal Bd.*, 755 A.2d 108, 109 (Pa. Commw. Ct. 2000) (“When Anthony Bottoni filed a simple Workers’ Compensation claim in 1986, we doubt he would have expected it to drag on into the new millennium.”).

The scope of the workers' compensation system reflected the common-law tort system it replaced.²⁷ Common-law tort actions for workplace injuries and illnesses were generally limited to industrial accidents—the factory worker whose hand is mangled in a machine, or the railroad worker who gets burned by falling sparks. This industrial-accident paradigm carried over to the workers' compensation system that replaced tort remedies for workplace injuries.²⁸ Cumulative trauma injuries, along with occupational diseases and psychological injuries, were left out of this paradigm, in part reflecting contemporary notions of employer responsibility.²⁹

27. Traditional accounts of the history of workers' compensation in the United States tend to agree that the workers' compensation system reflected the notion of what should and should not be compensated under the common-law, fault-based system. In other words, workers' compensation codified, in a sense, existing notions of fault. But the implications of this are generally overlooked in most accounts. See Friedman & Ladinsky, *supra* note 17, at 71 ("In essence, then, workmen's compensation was designed to replace a highly unsatisfactory system with a rational, actuarial one. It should not be viewed as the replacement of a fault-oriented compensation system with one unconcerned with fault.").

28. Because this paradigm is fairly limited, many observers believe that for most of its existence, workers' compensation has not covered the majority of employment-related injuries and illnesses. Orin Kramer & Richard Briffault, *Workers Compensation: Strengthening the Social Compact* 8–9 (1991) ("In unwitting imitation of the common-law's approach to industrial accidents, workers' compensation's traditionally limited coverage of occupational disease and archaic procedural barriers left many victims of illness without compensation."). As Dembe and others have pointed out, what counts as a work-related injury or disease is affected by many social factors that vary across time and place.

As Richard Epstein has pointed out, the major weakness of the original bargain was its rigidity and incapacity for self-correction. As a result, the definition of what counts as a compensable event has been expanded through judicial interpretation and legislative enactment—changes that Epstein would evaluate with reference to "the dominant contractual norm" underlying the system. See Epstein, *supra* note 19, at 808–09. The approach of this Note is similar, but adopts as its reference point the norm within the common-law tort system.

29. One prominent attorney who wrote about workplace accident law in the early twentieth century argued that responsibility, not fault, was the true principle that ought to guide the law of workplace accidents. "The rule of personal liability rests not upon a notion of actual fault on the part of the individual charged with liability, but upon the reasonable imputation of fault arising out of his responsible connection with the instrumentality through which the injury was caused." J. Walter Lord, *Employers' Liability and Workmen's Compensation Laws* 13 (1912) (cited in Witt, *supra* note 19, at 1490 n.124).

Indeed, as Professor McCluskey has pointed out, workers' compensation is sometimes explained "as a recognition of employer responsibility for work accidents." Martha T. McCluskey, *The Illusion of Efficiency in Workers' Compensation "Reform,"* 50 *Rutgers L. Rev.* 657, 730 n.277 (1998).

[R]ecent workers' compensation reform efforts typically claim to restore the "work" standard of liability that is central to the cost-internalizing theory of the workers' compensation bargain. But this "employment relationship" standard for allocating accident costs requires judgments about what is necessary and inevitable to the employment relationship. . . . Those judgments incorporate normative determinations about employees' and employers' respective burdens

With heightened public attention and changes in social understanding of work-related illnesses and injuries, occupational diseases, such as asbestosis, became covered either judicially or by statute.³⁰ More recently, CTD claims have become a focus of workers' compensation systems—in some jurisdictions covered as an "injury," in others as a "disease," but often falling through the cracks of the system altogether.

Part II of this Note focuses on the difficulty of proving work-relatedness for CTD claims under workers' compensation, as compared with proving causation in common-law tort. Part III presents potential solutions to this discrepancy.

II. BETRAYING THE BARGAIN: THE DIVERGENCE OF WORKERS' COMPENSATION FROM THE TORT SYSTEM

Until the past two decades, CTDs were rarely considered compensable injuries under workers' compensation.³¹ In fact, they were mostly considered the "aches and pains" of life, or natural "wear-and-tear," rather than occupational injuries or illnesses. Concurrent with the expansion of occupational disease coverage, some jurisdictions began to recognize cumulative trauma injuries as compensable.³² In order to do so, these jurisdictions liberally construed statutory requirements that an

and duties of care in the employment relationship—in effect, returning to the original problem of determining worker versus employer fault.

Id. at 732–33 (internal citations omitted).

30. For an overview of the treatment of occupational diseases under workers' compensation laws, see Peter S. Barth & H. Allan Hunt, *Workers' Compensation and Work-Related Illnesses and Diseases* (1982).

31. The term "cumulative trauma disorder" was first used in the 1970s. But the concept—and its frequent relation to work—has existed for centuries. Dembe, *supra* note 3, at 27. A few jurisdictions have recognized cumulative trauma injuries as compensable for many years, often classifying them as occupational diseases. E.g., *Underwood v. Nat'l Motor Castings Div.*, 45 N.W.2d 286, 288 (Mich. 1951) (awarding compensation for injury resulting from repeated "bending and twisting that . . . was a part of [claimant's] job"); *Sears-Roebuck & Co. v. Starnes*, 26 S.W.2d 128, 129 (Tenn. 1930) (affirming award of compensation to a department-store employee who developed an infection in her finger after operating a listing machine requiring approximately 10,000 strokes daily).

32. See, e.g., *Fruehauf Corp. v. Workmen's Comp. Appeals Bd.*, 440 P.2d 236, 240 (Cal. 1968) ("We are convinced that it was the Legislature's intention to classify injuries resulting from continuous cumulative traumas which are minor in themselves but eventually result in disability as occupational diseases."); *McKeever Custom Cabinets v. Smith*, 379 N.W.2d 368, 373 (Iowa 1985) (citing cases recognizing gradual injuries in several states); *Lilly v. State Workmen's Comp. Comm'r*, 225 S.E.2d 214, 218 (W. Va. 1976) ("[A]n employee who is injured gradually by reason of the duties of employment and eventually becomes disabled is no less the recipient of a personal injury than one who suffers a single disabling trauma."). But see *Bowman v. Nat'l Graphics Corp.*, 378 N.E.2d 1056, 1058 (Ohio 1978) (denying compensation on the basis that claimant's "disability simply developed gradually over a period of time as a result of performing his normal work activities").

injury be caused "by accident"³³ at a definite time and place,³⁴ or that an occupational disease be "unique to employment or the particular occupation."³⁵ Courts continue to have difficulty deciding whether CTDs are

33. For CTDs, there is often no specific "accident" that activates the symptoms. As one cabinetmaker explained when testifying as to when his injury occurred, "[T]hat was hard for me to distinguish because we use sanders and hand tools a lot and a lot of times you would experience strain. It was just like if you hold something at an angle a lot or the drills or the sanders a lot, you'd get like a fatigue and a strain." *McKeever*, 379 N.W.2d at 371.

In response to this problem, many jurisdictions have essentially read out the "accident" requirement or interpreted it as simply requiring an unexpected occurrence or result. See, e.g., *Duvall v. ICI Ams., Inc.*, 621 N.E.2d 1122, 1126 (Ind. Ct. App. 1993) (defining an injury as "accidental" when it is the "unexpected consequence of the usual exertion or routine performance of the particular employee's duties" (citing *Evans v. Yankeetown Dock Corp.*, 491 N.E.2d 969, 974 (Ind. 1986))); *Rice v. AT&T*, 614 So. 2d 358, 360 (La. Ct. App. 1993) (concluding that "the legislature did not intend to limit the definition of accident to only extraordinary exertions"); *Flint Constr. Co. v. Downum*, 444 P.2d 200, 203 (Okla. 1968) (accidental injury may arise from the cumulative effect of a series of events). Such broad interpretations are helped along by statutory language in some jurisdictions. See, e.g., *Kansas' Workers Compensation Act*, Kan. Stat. Ann. §44-508(d) (Supp. 1999) ("The elements of an accident, as stated herein, are not to be construed in a strict and literal sense, but in a manner designed to effectuate the purpose of the workers compensation act that the employer bear the expense of accidental injury to a worker caused by the employment.").

Virginia is a notable exception to the general liberal construction of the "accident" requirement. See, e.g., *Kraft Dairy Group, Inc. v. Bernardini*, 329 S.E.2d 46, 48 (Va. 1985) ("[A]n injury resulting from the cumulative trauma caused by the physical exertions inherent in an employee's normal work is not an 'injury by accident' . . ."); *Robinson v. Olan Mills, Inc.*, VWC File No. 188-57-55, 1999 VA Wrk. Comp. LEXIS 363, at *5 (Va. Workers' Comp. Comm'n, Mar. 11, 1999) (ruling that the claimant did not suffer a compensable "injury by accident" because her injury resulted from the cumulative effects of heavy work performed over the course of approximately one hour or more).

34. Cumulative trauma injuries, by definition, occur gradually—and the time and place of injury cannot therefore be pinpointed. Some courts have liberalized the requirement so that the onset of symptoms can qualify as the definite time and place of injury. Others have used lessons from ergonomics to recognize that many jobs are designed in such a way that each act or repetitive motion is essentially a "micro-trauma"—each of which can be identified as having a definite time and place.

35. CTDs have often not been able to overcome this barrier. The kinds of symptoms reported by many workers with CTDs—aching, pain or tingling in the hands or wrists—were seen as common to many occupations, or part of the "natural aging process." See, e.g., *Gencarelle v. Gen. Dynamics Corp.*, 892 F.2d 173, 176-78 (2d Cir. 1989) (holding that cumulative trauma injury from repeated straining of the knees was not "peculiar" enough to employment as a maintenance man to be compensable as an occupational disease under the federal Longshore and Harbor Workers' Compensation Act (LHWCA)). Judge Learned Hand argued that it was necessary to limit coverage to occupational diseases "resulting from working conditions peculiar to the calling" so as not to turn the LHWCA into a general health insurance statute. *Grain Handling Co. v. Sweeney*, 102 F.2d 464, 465 (2d Cir. 1939) (cited in *Gencarelle*, 892 F.2d at 177); see also *LeBlanc v. Cooper/T. Smith Stevedoring, Inc.*, 130 F.3d 157, 160 (5th Cir. 1997) (ruling that degenerative lower back condition was not peculiar to claimant's line of work as a longshoreman and therefore was not an occupational disease for LHWCA purposes); *Adams v. Contributory Ret. Appeals Bd.*, 609 N.E.2d 62, 66 (Mass. 1993) ("[J]ob duties involving common movements done frequently by many humans both in and out of work will not be sufficient to establish an

more properly classified as an "injury" or "disease." Medically, the condition is more consistent with injury, but workers' compensation statutes have distinguished between injury and disease on the basis that an injury is unexpected and sudden, whereas a disease is a natural incident of employment and occurs gradually.³⁶

The ability to get compensation for a CTD varies considerably from state to state. A recent national survey on the treatment of CTDs under workers' compensation laws found that compensation for a CTD claim is "very likely" in ten states; "likely" in fifteen states; "fair" in fifteen states; and "case-by-case" in ten states.³⁷ Some of this divergence stems from variations in the statutes,³⁸ but much of it simply reflects confusion over how to classify those disorders which have no simple medical explanation, and do not neatly fit into either the "accident" or "disease" categories that

entitlement . . ."); *Fuller v. Motel 6*, 526 S.E.2d 480, 484-85 (N.C. Ct. App. 2000) (disease must be characteristic of a trade or occupation) (citing *Hansel v. Sherman Textiles*, 283 S.E.2d 101, 105-06 (N.C. 1981)); *Rivera v. Cosrich, Inc.*, No. 94-025070, 1998 N.J. Wrk. Comp. LEXIS 104, at *20-*21 (N.J. Dep't of Labor Div. of Wrk. Comp. Mar. 16, 1998) (deciding that "[m]ere standing on one's feet" is not peculiar to the employment and therefore the injury is not compensable); *In re Popham v. Indus. Comm'n*, 214 N.E.2d 80, 82 (Ohio 1966) (ruling that claimant's arthrosis is not compensable because it is the "common and generally held consensus" that the disease results from ordinary "wear and tear"); *Kelly v. American Airlines, I.C. No. 709796*, 1998 NC Wrk. Comp. LEXIS 2529, at *3 (N.C. Indus. Comm'n Oct. 16, 1998) (ruling that airline reservationist who worked on a keyboard all day did not have increased risk of carpal tunnel syndrome compared to members of the general public because "[u]nlike the work of a medical or legal transcriptionist, plaintiff's typing duties did not require her to type constantly"). But see *In re Dep't of Health and Human Servs.*, 761 A.2d 431, 435 (N.H. 2000) ("[I]t is not a requirement of the Workers' Compensation Law that the injury be peculiar to the claimant's job."); *Clark v. Excel Corp.*, W.C. No. 4-347-891, 1999 Colo. Wrk. Comp. LEXIS 146, at *3-*4 (Colo. Indus. Claim App. Office June 23, 1999) (upholding administrative law judge's inference that standing and lifting boxes on hard and uneven flooring constituted special hazards of employment); *Peirce & Dworkin*, supra note 21, at 660-61 ("In order to maintain the work-related requirement . . . coverage was extended only if the employee's workplace exposure to the disease was greater or different than that which affected the public generally."). For jurisdictions that write such a definition into their statute, see, e.g., Ala. Code § 25-5-110(4) (2000); N.J. Stat. Ann. § 34:15-31(a) (West 2000).

36. It has become increasingly clear that jobs with recognized ergonomic hazards will have the *expected* result of injury, but injuries by definition are "unexpected" and "by accident." See, e.g., *Young v. Wal-Mart*, Claim No. 1995038023, 1998 WI Wrk. Comp. LEXIS 133, at *11 (Wis. Labor & Indus. Review Comm'n Apr. 28, 1998) (concluding that "an injury by cumulative trauma would be the antithesis of an injury by accident").

37. Ctr. for Office Tech., Report on State Treatment of Cumulative Trauma Disorders I (Jan. 22, 1999) (on file with the *Columbia Law Review*), available at <http://www.cot.org/workers.html> (last visited Mar. 31, 2001). The Center for Office Technology is a Washington organization, funded by several major corporations, that promotes "voluntary" solutions to ergonomic issues.

38. The survey also found that in twenty states, CTDs are specifically recognized by statute; in eighteen states, either carpal tunnel syndrome is recognized by statute or CTDs are included in the occupational disease or injury definition; and thirteen states do not recognize CTDs. *Id.*

the statutes create.³⁹ In some jurisdictions, cumulative trauma injuries often go uncompensated, even though they would likely be recognized as the employer's responsibility in the tort system. And as two leading commentators point out, "even in jurisdictions that nominally compensate these injuries, many claims go uncompensated."⁴⁰

In the last decade, the business community and insurance industry have argued—with some accompanying success in state legislatures—that the increased range of compensable injuries and accompanying benefit payments has tilted the terms of the bargain too far toward employees.⁴¹

39. Different jurisdictions deal with this problem in different ways. See, for example, the Alabama Workers' Compensation Act, where the statutory definition of injury caused by an accident includes cumulative trauma disorders. Ala. Code § 25-5-1 (9) (2000). In other jurisdictions, courts have made this decision on an ad hoc basis. See, e.g., *Found. Constructors, Inc. v. Dir., Office of Workers Comp. Programs*, 950 F.2d 621, 623–24 (9th Cir. 1991) (deciding that claimant's back condition is an injury, not a disease, under the federal Longshore and Harbor Workers' Compensation Act); *Fruehauf Corp. v. Workmen's Comp. Appeals Bd.*, 68 Cal. 2d 569, 576 (Cal. 1968) (deciding that California statutory definition of "occupational disease" includes CTDs); *Duval v. ICI Ams., Inc.*, 621 N.E.2d 1122, 1125 (Ind. Ct. App. 1993) (upholding the Board's finding that plaintiff's carpal tunnel syndrome—caused by daily trauma to her hand and wrist—was an injury, not a disease, for purposes of the workers' compensation statute); *Schlup v. Auburn Needleworks, Inc.*, 479 N.W.2d 440, 445 (Neb. 1992) (considering a condition resulting from the cumulative effects of repeated work-related trauma under the statutory definition of "accident" (citing *Maxson v. Michael Todd & Co.*, 469 N.W.2d 542, 544 (Neb. 1991))); *Ball-Incon Glass Packaging v. Taber*, 888 P.2d 2, 4–5 (Okla. Ct. App. 1994) (ruling that occupational disease, as distinguished from a cumulative trauma injury, must be distinguished by a "gradual onset" and result from a "systemic reaction to something in the work environment which is introduced into the body").

Deciding which category repetitive trauma injuries fall into often requires peculiar twists of logic, and claimants sometimes lose entirely because of statutory technicalities that would not come into play in tort. See the sarcastic observations of one Nebraska judge who writes:

[T]his court continues to lie in its Procrustean bed made of 'repetitive trauma' decisions based on a distorted definition of 'accident' in the Nebraska Workers' Compensation Act. . . . Although '[h]ope springs eternal,' employees injured by repetitive work-related trauma are a little more mortal and need a remedy under the Nebraska Workers' Compensation Act.

Schlup, 479 N.W.2d at 451 (Shanahan, J., concurring); see also *Merillat Indus., Inc. v. Parks*, 436 S.E.2d 600, 601–02 (Va. 1993) ("We based our . . . position, in part, on our conclusion that the categories of compensable injuries created by the legislature—accidental injury and occupational disease—are separate, meaningful categories.").

40. See John F. Burton, Jr. & Emily A. Spieler, *Compensation for Disabled Workers: Workers' Compensation*, in *New Approaches To Disability in the Workplace* 205, 224 (Terry Thomason et al. eds., 1998).

41. The continued rhetoric of a "cost crisis" in workers' compensation is inconsistent with the most recent data. A recent report found that as a share of covered payroll, workers' compensation benefits and costs in 1996 had declined by about 23% from their all-time high in 1992 and 1993. See Nat'l Acad. Of Soc. Ins., *Workers' Compensation: Benefits, Coverage, and Costs, 1996, New Estimates 1* (1999), available at <http://www.nasi.org/WorkComp/1996Data/wc96rptmain.htm> (last visited Mar. 30, 2001). For critical analysis of these changes to state workers' compensation statutes, see James Ellenberger, *The Battle over Workers' Compensation*, *Working USA*, Sept.–Oct. 1999, at

But the relevant comparison, in assessing the balance of the bargain, is not between the scope of workers' compensation today versus the scope during times past. The relevant comparison is what employers would be held liable for in today's tort system, and whether that is reflected in the scope of the workers' compensation system today.⁴²

This Part will specifically compare the difficulty of proving the causal relationship between work and injury for CTD claims under workers' compensation, as compared with proving causation in common-law tort. In doing so, this Part draws on traditional tort principles, Texas workplace tort law cases,⁴³ product liability cases involving CTDs, and claims brought under the Federal Employers' Liability Act (FELA). As this Part will demonstrate, workers' compensation jurisprudence has betrayed the original bargain—more certain but limited recovery—by often making it more difficult to prove compensability for legitimate, work-related injuries under workers' compensation than under the tort system.

A. *The Nature of The Causation Inquiry*

The causation inquiry in personal injury tort cases differs in important ways from the causation inquiry in workers' compensation cases. These differences have particularly significant implications for CTD claimants. The traditional causation inquiry in tort consists of two parts—"cause in fact" and "proximate cause." The "cause in fact" is also known as "but for" causation, indicating the idea that "but for" the defendant's action or inaction, the harm would not have occurred. Generally plaintiffs can satisfy this requirement fairly easily. On the other hand, the "proximate cause" question—essentially a glorified inquiry into policy considerations to decide whether the defendant should be held liable for his action—raises much more complex questions. Plaintiffs frequently must overcome the burden of demonstrating that the harm was "foreseeable" enough for the defendant's action or inaction to be considered the "proximate cause" of the harm.

The requirement in virtually all workers' compensation statutes that the injury or illness "arise in the course of employment" has commonly been translated to mean that the injury or illness be "work-related." In

23. For a more straightforward, if not unbiased view, see *Ctr. for Office Tech.*, *supra* note 37.

42. As Professor McCluskey points out, "[i]f one takes the more plaintiff-oriented contemporary tort system, rather than the 19th-century tort system, as the baseline, then workers' overall gain from the bargain is less substantial." McCluskey, *supra* note 29, at 896. The importance of this comparison is discussed in greater detail *infra* Part III.A.

43. Texas is the only state where workers' compensation is voluntary for employers. Therefore, workers in Texas whose employers have opted out of the workers' compensation system can bring tort claims for workplace injuries. A 1996 survey found that 39% of the employers in Texas do not carry workers' compensation coverage, and they employ approximately 20% of the Texas workforce. Research and Oversight Council on Workers' Comp., *Experiences of Injured Workers Employed by Nonsubscribing Employers 1* (Mar. 1997).

terms of tort principles, “work-relatedness” stands in for causation—the question being whether the work activity was responsible for the illness or injury. This tort-style causation inquiry tends to be where all the “action” in workers’ compensation litigation takes place.⁴⁴ But the “work-related” requirement in workers’ compensation cases is dealt with somewhat differently than causation in tort.

Many workers’ compensation jurisdictions use the two-part legal and medical causation inquiry.⁴⁵ In a sense, it mirrors the two-pronged causation inquiry in tort—with medical causation the equivalent of “but for” causation,⁴⁶ and legal causation another way of discussing “proximate cause.”⁴⁷ In lay terms, the medical and “but for” causation inquiries both ask the question: if not for the factor in question (here, the work activity),

44. E.g., Jordan Yospe, Note and Comment, *U.S. Industries v. Director: “Claim” Versus “Condition” in the Analysis of Workers’ Compensation Cases*, 12 Am. J.L. & Med. 273, 274 (1986) (“The crux of workers’ compensation litigation, regardless of the statute under scrutiny, appears to center upon the ‘arising out of and in the course of employment’ requirement.”).

45. E.g., *Tyson Foods, Inc. v. Domingo*, 764 So. 2d 1287, 1290 (Ala. Civ. App. 2000) (“To establish causation in a workers’ compensation case . . . where the injury was not caused by some sudden and unexpected external event, an employee must satisfy a two-part causation test by producing substantial evidence establishing both (a) legal causation and (b) medical causation.” (citing *City of Tuscaloosa v. Howard*, 318 So. 2d 729 (Ala. Civ. App. 1975))); Appeal of *Burleigh Briggs*, 645 A.2d 655, 659 (N.H. 1994) (“Under this test, the petitioner must ‘prove legal causation, that is, that [his] injury is work-connected, and medical causation, that is, that [his] disability was actually caused by the work-related event.’” (quoting *Tzimas v. Coiffures By Michael*, 606 A.2d 1082, 1083 (N.H. 1992))); *Hone v. J.F. Shea Co.*, 728 P.2d 1008, 1011 (Utah 1986) (describing the two-part legal and medical causation test) (citing *Allen v. Indus. Comm’n*, 729 P.2d 15 (Utah 1986)). But see *Dun & Bradstreet Corp. v. Jones*, 678 So. 2d 181, 185–86 (Ala. Civ. App. 1996) (explaining that for cumulative trauma disorders, the legislature’s 1992 amendments eliminated the accident requirement and combined legal and medical causation into one inquiry); *Blaser v. Country Club of Beloit*, Claim No. 1996052288, 1998 WI Wrk. Comp. LEXIS 243, at *21 (Wis. Labor & Indus. Review Comm’n July 29, 1998) (describing the “arising out of” causation question as “medico-legal”).

46. See, e.g., *Ex parte Trinity Industries, Inc.*, 680 So. 2d 262, 269 (Ala. 1996) (requiring substantial evidence that the exposure to risk or danger in the workplace “was in fact [a] contributing cause of the injury”); Appeal of *Bellisile*, 738 A.2d 946, 949 (N.H. 1999) (“[A]n employee must show, by a preponderance of the evidence, that the work-related activities probably caused or contributed to the employee’s disabling injury as a matter of medical fact. . . . An employee need not prove direct causation but must establish that the activities caused the activation of disabling symptoms.” (citing Appeal of *Kehoe*, 686 A.2d 749, 752–53 (N.H. 1996))); *Yospe*, supra note 44, at 283 (“Courts must determine whether the injury is a physical consequence of workplace activity. This is denoted ‘medical causation.’”).

47. See, e.g., *Trinity*, 680 So. 2d at 267 (establishing that proof of legal causation requires demonstrating that “the performance of his or her duties as an employee exposed him or her to a danger or risk materially in excess of that to which people are normally exposed in their everyday lives” (discussing *Tuscaloosa*, 318 So. 2d at 732)); *Kehoe*, 686 A.2d at 752 (“Where there is no pre-existing condition, any work-related activity connected with the injury as a matter of medical fact would be sufficient to show legal causation.”); *Burleigh Briggs*, 645 A.2d at 659 (“To prove legal causation, where . . . the petitioner concedes a pre-existing weakness or condition, he must show that his work-related activities substantially

would the plaintiff/claimant be injured? Meanwhile, the legal and "proximate cause" inquiries ask: should the defendant (here, the employer) be held responsible for the harm? But while legal causation tends to be glossed over in workers' compensation cases, the issue of medical causation tends to turn many workers' compensation hearings—especially those involving CTDs—into a "battle of dueling doctors" that is not particularly enlightening as to the ultimate legal question of whether the employers should be held responsible.⁴⁸

This problem is compounded by the fact that doctors and lawyers tend to have very different understandings of what constitutes causation. In medicine, causation is discoverable by scientific proof, while in law, causation is a means of assigning the burden of persuasion based on policy considerations.⁴⁹ It is commonly observed that medical causation is a more demanding standard than legal causation⁵⁰, but the inquiries are also simply different. One doctor, recognizing this distinction, refused to take a position on the question of causation in a workers' compensation case, stating: "I feel that whether this repetitive trauma is considered to be a cause of her ruptured disc or not is a legal question rather than a medical one."⁵¹ The focus on medical causation in workers' compensation cases is particularly harmful to CTD claimants because of the multiple factors inevitably involved in such injuries.

The treatment of multiple causal factors is another important area where workers' compensation diverges from tort law. According to black-letter tort law, the existence of more than one cause for an injury does

contributed to his disability by showing that the work-related activities required more exertion than his non-work-related activities.").

48. As one commentator put it, the "legal question is how much workplace contribution will be enough to trigger the employer's liability under workers' compensation." Yospe, *supra* note 44, at 275.

49. As one Kentucky court explained:

The legal profession and the medical profession view causation problems from different perspectives. The physician defines cause in terms of single and isolated bits of scientific exactitude. The lawyer views cause as a vehicle for adjusting losses in accordance with the policy conditions which are embodied in social legislation such as our workmen's compensation law.

Hudson v. Owens, 439 S.W.2d 565, 569 (Ky. Ct. App. 1969).

50. See Kent Louis Brown, *Medical Problems and the Law* 204-05 (1971) (explaining that most medical practitioners do not understand the difference between probable and possible as distinguished by the law); Douglas Danner & Elliot L. Sagall, *Medicolegal Causation: A Source of Professional Misunderstanding*, 3 *Am. J.L. & Med.* 303, 304-05 (1977) (distinguishing the legal standard for cause from the more demanding requirement of scientific proof sought by the medical profession); Donna H. Smith, Note, *Increased Risk of Harm: A New Standard for Sufficiency of Evidence of Causation in Medical Malpractice Cases*, 65 *B.U. L. Rev.* 275, 279 (1985) ("Physicians, unaware of the difference between medical certainty and legal certainty, will not testify that a result was *certain* to follow. They fail to understand that legal causation requirements are less demanding than scientific proof of medical causation.").

51. *W. Elec. Co. v. Workers' Comp. Appeals Bd.*, 99 *Cal. App.* 3d 629, 635 n.1 (Cal. Ct. App. 1979).

not excuse any particular defendant from liability if that defendant's action or omission was a "substantial factor" in causing the harm.⁵² The language of workers' compensation decisions, however, reveals quite a different approach.

Workers' compensation judges often discuss the issue of causation as if there were only one cause for each injury—an approach that may have made sense under the industrial-accident paradigm but is divorced from the medical reality of occupational diseases and CTDs. Pinpointing one causal factor is next to impossible for multi-factor disorders like cumulative trauma injuries.⁵³ It is often difficult, for example, to identify the extent to which an injury is the result of work-related cumulative trauma over several years, or the result of the "natural aging process."⁵⁴

52. Prosser and Keeton on the Law of Torts 268 (W. Page Keeton et al. eds., 5th ed. 1984) ("If the defendant's conduct was a substantial factor in causing the plaintiff's injury, it follows that he will not be absolved from liability merely because other causes have contributed to the result, since such causes, innumerable, are always present.").

53. See, e.g., Yospe, *supra* note 44, at 297 ("Assessments of the 'cause' of a cumulative injury should be grounded in the realities and limits of medical diagnostic techniques."); see also *Tyson Foods, Inc. v. Domingo*, 764 So. 2d 1287, 1288–89 (Ala. Civ. App. 2000) (noting doctor's testimony that "a clear etiology is rarely diagnosed" for Kienbock's disease—a wrist disorder commonly caused by repetitive trauma); *Pulaski v. Occupational Safety & Health Stds. Bd.*, 75 Cal. App. 4th 1315, 1324 n.3 (Cal. Ct. App. 1999) (describing CTDs as the function of an interplay among three factors: "amount of tissue damage relating to the force and duration of exposure; individual parameters such as age, obesity, and prior medical conditions; and psychological and psychosocial factors such as stress" (citing Mackinnon & Novak, *Repetitive Strain in the Workplace*, J. of Hand Surgery, Jan. 1997, at 2)); *Hill v. Father Flanagan's Boys' Town*, H & AS No. 99-318, 1999 D.C. Wrk. Comp. LEXIS 481, at *7–*8 (D. C., Office of Emp. Serv. Dec. 30, 1999) ("Q. Just a minute, Doctor. To a reasonable medical certainty, can you determine whether or not this box incident did indeed materially aggravate Ms. Hill's back? A. No. . . . [O]ur science is not good enough to pin a direct etiology for her symptoms."); *In re Comp. of Esch*, No. 96-10094, 1998 Or. Wrk. Comp. LEXIS 204, at *12 (Or. Wrk. Comp. Bd. Mar. 13, 1998) (noting that treating physician's report indicated that etiology of claimant's back pain was "multifactorial," although primarily due to work-related cumulative trauma); *Madsen v. Northwestern Mutual Life*, Claim No. 1996045948, 1999 WI Wrk. Comp. LEXIS 13, at *10 (Wis. Labor & Indus. Review Bd. Jan. 29, 1999) (doctor's letter said "both injuries [one at home and one at work] . . . were contributing factors to her current condition, and it would be impossible for me to tell to what extent and to what magnitude . . .").

54. The "natural aging process" is a concept often written into statutes. E.g., *Kansas Workers' Compensation Act*, Kan. Stat. Ann. § 44-508(e) (Supp. 1998) ("An injury shall not be deemed to have been directly caused by the employment where it is shown that the employee suffers disability as a result of the natural aging process or by the normal activities of day-to-day living."). But such statutory language does not provide much guidance to judges, other than reinforcing the requirement of work-relatedness. E.g., *Hill*, 1999 D.C. Wrk. Comp. LEXIS 481, at *8 (doctor acknowledging difficulty of isolating causation by saying of claimant: "As you know, she had a history of something approaching trauma. She also got six years older and I am not smart enough to tell you which one caused the change. How's that?"); *Turley v. State of Kansas*, Docket No. 247,457, 1999 KS Wrk. Comp. LEXIS 450, at *2 (Kan. Div. of Workers' Comp. Nov. 1999) ("Unfortunately, the Workers Compensation Act does not define the phrase 'normal activities of day-to-day living.'"); *Williamson v. Central Locating Service*, Docket No. 242,656, 1999 KS Wrk. Comp. LEXIS 234, at *3 (Kan. Div. of Workers' Comp. June 1999) (distinguishing walking,

To take the prototypical industrial accident as an example, the lack of a safety guard on a machine can be quite clearly the cause of a worker losing a finger. In contrast, the development of a CTD by someone who works in a poultry processing plant, for example, might be primarily due to her work activities, but contributed to secondarily by the regular activity of fishing, gardening, or picking up and holding a young child. Under the "substantial factor" test of tort law, the work activities would no doubt be enough to hold the employer liable, but under workers' compensation, judges often hold in such a scenario that the plaintiff has not carried her burden of proof in showing that the injury was work-related.

The critical question is: Who will bear the risk of the medical uncertainty? Certainly traditional tort law, where the plaintiff carries the burden of proof, places the risk of uncertainty on the plaintiff. And workers' compensation statutes, by and large, do the same by placing the burden of proof on the claimant to prove that the injury was work-related. Within that context, however, judges deciding workers' compensation cases must consider *how* claimants can carry their burden of proof in light of the original bargain—that compensability (or liability in tort) would be easier to prove under workers' compensation laws than under common law.

B. *Permissible Inferences: Evidence To Prove Causation*

1. *Inferring Causation From Circumstantial Evidence.* — Given the nature of CTDs, inferences—as opposed to direct proof—are necessary to establish medical causation. An examination of common-law tort and FELA cases indicates that judges and juries are much more willing to make inferences about the causal link between work activities and an employee's injury than judges in the workers' compensation system.⁵⁵ These inferences can be seen in some workers' compensation cases, but they are the exception.⁵⁶ In these common law and FELA cases, courts allow in-

an activity of daily living, from walking on muddy and uneven terrain, not a normal activity of daily living, for purposes of compensation); *In re Comp. of Thom*, WCB Case No. 98-00579, 1999 Or. Wrk. Comp. LEXIS 280, at *5-*6 (Or. Workers' Comp. Bd. April 8, 1999) (testimony of doctor that "nothing is presented during shoulder surgery that would enable a surgeon to distinguish between findings caused by the natural aging process and findings caused by employment" and cause of shoulder condition is thus "idiopathic" or unknown).

55. See Prosser and Keeton on the Law of Torts, *supra* note 52, at 270 ("Circumstantial evidence, expert testimony, or common knowledge may provide a basis from which the causal sequence may be inferred.") (footnotes omitted).

56. See, e.g., *Decker v. Square D Co.*, 1998 MOWCLR (LRP) LEXIS 58, at *6-*7 (Mo. App. 1998) (stating that "[t]he evidence must establish a direct causal link between a worker's workplace or job duties and the injury-causing disease."); *Eaton v. Quincy*, 1999 Ill. Wrk. Comp. LEXIS 44, at *23 (Indus. Comm'n of Ill. May 28, 1999) (Kinnaman, J., dissenting) ("In this case the majority finds that a firefighter who sits underneath the engine's siren every time he is out on a call has not proven sufficient exposure to noise to win compensation for the resulting hearing loss. The finding defies common sense and the weight of the evidence."); *Santos v. Bernan Foods, Inc.*, 1998 N.J. Wrk. Comp. LEXIS 96, at *21-*22 (N.J. Div. Wrk. Comp. Oct. 5, 1998) (finding doctor's explanation

ferences from circumstantial evidence to prove that work activities caused CTDs.⁵⁷ For example, in a Texas case, a group of employees from a major meatpacking plant brought a negligence claim against their employer, who did not participate in Texas' workers' compensation system, charging that their work conditions caused them to develop CTDs.⁵⁸ The plaintiffs were allowed to prove causation with circumstantial evidence—presenting evidence of the ergonomic risk factors in the meatpacking plant where they worked, and the medical records of the doctors who

"unconvincing" that claimant's serious joint condition was related to having worked in a freezer for more than twenty years). But see, e.g., *King v. Vt. Am. Corp.*, 664 So. 2d 214, 217 (Ala. Civ. App. 1994) (Robertson, J., dissenting) (arguing that claimant's carpal tunnel syndrome and repetitive wrist action associated with her job as an assembly-line worker was enough to support the inference that her injury was aggravated by work); *Clark v. Excel Corp.*, W.C. No. 4-347-891, 1999 Colo. Wrk. Comp. LEXIS 146, at *3 (Colo. Indus. Claim App. Office June 23, 1999) (inferring causation from claimant's testimony on the circumstances of his employment and medical experts' testimony on the acceleration of claimant's condition); *Riggs v. The Boeing Co.*, Docket No. 223,954, 1999 KS Wrk. Comp. LEXIS 342, at *11 (Kan. Div. of Workers' Comp. Aug. 1999) (inferring causation from physicians' diagnosis of an overuse or cumulative trauma disorder, and the fact that work restrictions were prescribed to prevent further injury); *Zapata v. IBP*, Docket No. 168,210, 1999 KS Wrk. Comp. LEXIS 96, at *20-*21 (Kan. Div. of Workers' Comp. Apr. 1999) (awarding compensation to claimant for new injuries because the jobs that employer returned claimant to after being treated for carpal tunnel syndrome were all outside his doctor's restrictions on repetitive activities); *Thomas v. Tidewater Mechanical Contractors, Inc.*, VWC File No. 184-88-17, 1999 VA Wrk. Comp. LEXIS 306, *7-*8 (Va. Workers' Comp. Comm'n Jan. 13, 1999) (noting that the workers' compensation commission "may find a causal relationship without a definitive medical statement regarding causation if the factual testimony is not inconsistent with the medical reports and establishes a fairly obvious link from which we may reasonably infer causation"); *Steere v. Rich Products Corp.*, VWC File No. 185-45-69, 1999 VA Wrk. Comp. LEXIS 323, at *9 (Va. Workers' Comp. Comm'n Jan. 12, 1999) (ruling that "uncontradicted medical evidence" ascribing the claimant's unusual disease to work, combined with the "undisputed circumstantial evidence" surrounding the onset of the condition after a freezer fire, established causation despite doctors' inability to make a specific diagnosis). See also *Bryan v. Allstate Timber Co.*, 724 So. 2d 853, 855 (La. Ct. App. 1998) (explaining that worker's testimony alone can carry his burden of proof for an "accident" claim provided that no other evidence casts serious doubt upon the worker's version of the incident; and the worker's testimony is corroborated by the circumstances following the alleged incident) (citing *Garner v. Sheats & Frazier*, 663 So. 2d 57, 60 (La. Ct. App. 1995)).

57. E.g., *Gutierrez v. Excel Corp.*, 1997 U.S. App. LEXIS 12984, at *8 (5th Cir. 1997) (noting that under Texas tort law, causation and foreseeability can be established by direct or circumstantial evidence); *Aparicio v. Norfolk & W. Ry. Co.*, 84 F.3d 803, 812 (6th Cir. 1996) (holding, in FELA case, that deposition of railroad's medical director permitted the inference that a person exposed to a risk factor for injury or illness may develop the injury or illness as a result); *Schaefer v. Union Pac. R.R.*, 10 F. Supp. 2d 1240, 1248 (D. Wyo. 1998) (acknowledging that the jury can infer the railroad's breach of duty in FELA case, but holding that the plaintiff has not produced even a "scintilla" of evidence).

58. *Gutierrez*, 1997 U.S. App. LEXIS 12984, at *4. The case was in federal court because of diversity of citizenship. The employer, Excel Corp., was a nonsubscriber to the Texas workers' compensation system and therefore subject to common-law causes of action such as negligence. *Id.* at *5 n.3.

examined them.⁵⁹ This is precisely the type of inference that is typically denied in CTD cases under workers' compensation—where proving compensability is supposed to be easier than in tort. In addition, employees who bring product liability claims against the manufacturer of a product that causes a work-related CTD are often able to get to a jury on causation without direct evidence.⁶⁰

Because FELA requires that plaintiffs prove all of the common-law elements of tort, but has a relaxed evidentiary standard, a FELA claim should be less difficult to prove than a common-law tort claim, yet more difficult to prove than a workers' compensation claim.⁶¹ But with CTD

59. *Id.* at *9. “[I]t is apparent that the working situation at the Whizard table was rife with conditions known to cause, or at least to be associated with, cumulative trauma disorder.” *Id.* at *11. The Fifth Circuit accepted the possibility of an inference of causation by holding that:

[I]f a plaintiff can establish that she was exposed to enough of the risk factors for a sufficiently long period of time, and that she suffers from a specific injury defined as a cumulative trauma disorder, then it is not, as a matter of law, necessary to present evidence directly stating that the work environment caused the injury. A reasonable jury could infer causation in these circumstances.

Id. at *16. Unfortunately for the particular plaintiff, the court also ruled that she “did not present such testimony in this case” because her condition “was not one associated with cumulative trauma.” *Id.*

60. See, e.g., *Bone v. Ames Taping Tool Sys., Inc.*, 179 F.3d 1080, 1082 (8th Cir. 1999) (reversing district court's grant of summary judgment to defendant on causation); *Tenbarge v. Ames Taping Tool Sys., Inc.*, 128 F.3d 656, 658 (8th Cir. 1997) (same); *Rice v. United Parcel Serv. Gen. Servs. Co.*, 43 F. Supp. 2d 1134, 1146 (D. Or. 1999) (denying defendants' motion for summary judgment on issue of proximate cause); *White v. Chi. Pneumatic Tool Co.*, 994 F. Supp. 1478, 1481 (S.D. Ga. 1998) (same); *Vass v. Compaq Computer Corp.*, 953 F. Supp. 114, 118 (D. Md. 1997) (recognizing the possible inference that plaintiff knew “that there was very likely a connection between her use of a computer keyboard as a legal secretary and her increasing pain and discomfort”). Employees are generally permitted to bring a claim either against a third-party tortfeasor, such as the product manufacturer, or file a workers' compensation claim.

61. The Federal Employers' Liability Act was intended to depart from common-law principles of liability in order to provide additional protection and relief for railroad workers. A FELA plaintiff must prove the traditional common-law elements of a tort: breach of a duty (negligence), foreseeability, and causation. But the plaintiff need only provide “more than a scintilla of evidence” to prove negligence and can show causation by demonstrating that an employer's action played “some part” in causing the injury. See *Aparicio*, 84 F.3d at 810.

Recently, the Supreme Court explained the Act as a “federal remedy [for railroad workers] that shifted part of the ‘human overhead’ of doing business from employees to their employers.” *Consol. Rail Corp. v. Gottshall*, 512 U.S. 532, 542 (1994). This justification is very similar to that typically used in explaining workers' compensation statutes. In fact, Justice Harlan once wrote in a dissenting opinion that “[t]his case is a further step in a course of decisions through which the Court has been rapidly converting the Federal Employers' Liability Act . . . [into] a workmen's compensation statute.” *Sinkler v. Mo. Pac. R.R. Co.*, 356 U.S. 326, 332–33 (1958) (Harlan, J., dissenting). Justice Harlan was reacting to what he perceived as the ease with which the Court was allowing FELA plaintiffs to create a jury question. Today, however, he might be surprised at how much more difficult it is to receive compensation for certain litigated workers' compensation claims, as compared with FELA claims.

cases, the ability to use circumstantial evidence—as in common-law tort cases—often makes it easier to prove a FELA claim than the same claim under workers' compensation. In one Sixth Circuit FELA case, the court held that the deposition of the employer's medical director permitted an inference that a person with a risk factor for injury or illness may result in the person with the risk factor developing the injury or illness.⁶² The court used this inference, combined with evidence of the foreseeability that the repetitive vibrations and shocks of the employee's job might cause repetitive motion injury, to decide that the plaintiff had presented sufficient evidence to create a jury question on causation.⁶³ Again, this type of inference would likely be denied under workers' compensation.

The inability to use circumstantial evidence in workers' compensation is compounded by the requirements of objective medical evidence. Workers' compensation judges often deny benefits for CTDs based on a lack of "objective medical findings"—a requirement that is often written into statute and rarely used in common-law tort cases.⁶⁴ Cumulative trauma injuries, by definition, occur gradually and often without symptoms that are either visible or "objective" in the sense of being measurable on medical tests. This problem is itself compounded by many employees' lack of awareness of the nature of cumulative trauma injuries.⁶⁵ Nonetheless, there is little doubt that repetitive work activities often play a substantial role in the appearance of CTDs.

2. *Inferring Causation From Negligence.* — Another problem in proving causation under workers' compensation is that not having to prove "fault" or negligence may actually be a detriment to employees, and even to employers in some cases. It is well recognized that the negligence and causation inquiries are not completely separate,⁶⁶ but are merely ways of an-

62. *Aparicio*, 84 F.3d at 812.

63. *Id.* at 812–13.

64. E.g., *Frew v. McDonnell Douglas*, 932 P.2d 35, 37 (Okla. Ct. App. 1996) (upholding the trial court's denial of benefits based in part on the finding that claimant's complaints were not supported by "objective tests," despite the fact that McDonnell Douglas' own doctor found the injury to be work-related); *Jackson v. County of Wayne*, 12 MIWCLR (LRP) 1287, at *22–*23 (Workers' Comp. App. Comm'n June 29, 1999) (reversing the magistrate's award of benefits because of a lack of "objective evidence" on work-relatedness). Most jurisdictions contend that pain symptoms are not sufficiently "objective." But see *Schlup v. Auburn Needleworks, Inc.*, 479 N.W.2d 440, 446 (Neb. 1992) (ruling that pain symptoms can constitute "objective symptoms" as required by the Nebraska Workers' Compensation Act (quoting *Sandel v. Packaging Co. of Am.*, 317 N.W.2d 910, 915–16 (Neb. 1982))).

65. See, e.g., *Galloway v. Workers' Comp. Appeals Bd.*, 74 Cal. Rptr. 2d 374, 376 (Cal. Ct. App. 1998) (noting that the claimant, an ironworker, had only a sixth-grade education and testified that he did not understand that injuries could occur as a result of cumulative trauma rather than from a specific incident); *Weise v. Becton-Dickinson Co.*, 4 NCA 700, 1993 Neb. App. LEXIS 367, at *7 (Neb. Ct. App. 1993) (noting that, until she visited a doctor, claimant attributed symptoms to her pregnancy).

66. In tort claims, evidence of "fault" by the plaintiff or defendant is often used in deciding the appropriate causal connection. See, e.g., *Tenbarge v. Ames Taping Tool Sys., Inc.*, 190 F.3d 862, 865 (8th Cir. 1999) (citing the testimony of defendant's medical expert

swering the overall question: Should a defendant be held responsible for harm caused to a plaintiff? Indeed, the ability of plaintiffs to infer causation from evidence of negligence is an important contemporary development in tort doctrine—one that is not available to claimants in the “no-fault” workers’ compensation system.

In workers’ compensation cases, judges often deny compensation to claimants who rely on what appears to be a “fault”-based argument for compensability. In the controversial case *Waskiewicz v. General Motors Corp.*,⁶⁷ for example, the Maryland Court of Appeals specifically rejected the claimant’s argument as too heavily based upon employer “fault.” As the court explained:

we must assume that Mr. Waskiewicz’s argument before us is founded on the notion that the employer’s actions in removing him from and then reassigning him to the repetitive motion work were the significant events triggering a new claim. . . . GM’s “fault” impliedly underlies Mr. Waskiewicz’s entire theory of recovery. Workers’ compensation is a “no-fault” system, rendering the very foundation of Mr. Waskiewicz’s argument quite shaky.⁶⁸

This case is a perfect example of a workers’ compensation claim where the claimant would have had a significantly better chance of recovery had he been able to litigate fault, either instead of causation or as a factor weighing in favor of compensability. Indeed, the court in *Waskiewicz* explicitly acknowledges this, and implicitly acknowledges that Mr. Waskiewicz is failed by an overly formalistic reading of the statute, when it writes:

We recognize that the recent aggravation of Mr. Waskiewicz’s disability occurred at least in part because GM knowingly removed him from light duty and placed him at risk of such aggravation by assigning him back to an assembly-line job where his duties would include repetitive hand motions. Were the issue

that he “cannot rule out alcohol” as a cause of plaintiff’s carpal tunnel syndrome because “he does consume some”); *Mosley v. Excel Corp.*, 109 F.3d 1006, 1013 (5th Cir. 1997) (discussing “but for” causation in the context of employer’s alleged negligence). And in workers’ compensation, employee fault often plays a more significant role than a “no-fault” statute should allow. For a particularly egregious twenty-first century example, see *Tamar Lewin, Commission Sues Railroad to End Genetic Testing in Work Injury Cases*, N.Y. Times, Feb. 10, 2001, at A10 (reporting on a recent EEOC action against a major railroad for genetically testing the blood of workers who filed workers’ compensation claims for carpal tunnel syndrome). Here, the employer was trying to demonstrate that the injury was the fault of the workers’ own genes.

67. 679 A.2d 1094, 1102 (Md. 1996) (denying benefits, in a 4–3 decision, on the grounds that a worsening of one’s condition cannot give rise to a new claim for benefits, even though claimant’s employer knowingly reassigned the disabled worker to repetitive motion work, which had caused the original condition).

68. *Id.* at 1100.

before us a question of equity rather than statutory law, GM would surely not fare so well.⁶⁹

C. Enhanced Procedural and Substantive Burdens in Workers' Compensation Cases

In the face of the medical uncertainty surrounding cumulative trauma disorders, the burden of proof, resting on the claimant to prove work-relatedness by a "preponderance of the evidence," is often decisive in workers' compensation cases.⁷⁰ There are many workers' compensation cases where it is clear that if the plaintiff had the benefit of a presumption of work-relatedness, the result would be different. This commonly occurs when there is conflicting medical testimony that is given equal weight by the judge. In such a situation, the judge will often say that the claimant loses because she has not carried her burden of proof. Since the employer is bound to present a medical expert who will say that the injury is not work-related, this scenario occurs quite frequently.⁷¹

In recent years, often as a reaction to growing claims for CTDs, state legislatures—and in some cases, judges—have acted to raise the procedural burden of proof necessary for compensability beyond what would be required in tort. A few states have required as much as "clear and con-

69. *Id.* at 1101. For an example from the employer's perspective, see *Derr Constr. Co. v. Bennett*, 873 S.W.2d 824, 826 (Ky. 1994) (upholding the Board's rejection of the employer's "fault based" argument that it should not be liable for medical expenses related to disability predating the specific workplace incident).

70. See, e.g., *Peirce & Dworkin*, *supra* note 21, at 662 ("Who bears the burden of proof on causation often determines whether or not an injured worker will be compensated. The majority of states place the burden of proof on the claimant to establish that the disease is causally related to the worker's employment."). Since the claimant must use expert medical testimony to meet the burdens of proof, he or she bears the risks of limitations in medical knowledge. *Id.* at 677-78.

71. See, e.g., *Carney v. TCI Cablevision of Tulsa*, 942 P.2d 763, 764 (Okla. Ct. App. 1997) (rejecting claimant's argument that employer had to present medical evidence to disprove the existence of compensable injury); *Rodney v. Michelin Tire Corp.*, 466 S.E.2d 357, 359 (S.C. 1996) (upholding commission's denial of benefits where there was "conflicting evidence" on work-relatedness); *Tilden v. Kaydon*, Docket No. 1998 ACO 416, 1998 MIWCLR (LRP) LEXIS 267, at *4-*6 (Workers' Comp. App. Comm'n June 30, 1998) (upholding magistrate's determination that plaintiff's evidence was "insufficiently persuasive" of a causal relationship, and noting that defendants were "under no obligation to prove non-work-related causation"); *In re Comp. of Thom*, WCB Case No. 98-00579, 1999 Or. Wrk. Comp. LEXIS 280, at *6 (Or. Workers' Comp. Bd. April 8, 1999) ("[A]t best, the medical evidence regarding causation is in equipoise, and claimant has failed to carry her burden of proof."); *Madsen v. Northwestern Mutual Life*, Claim No. 1996045948, 1999 WI Wrk. Comp. LEXIS 13, at *16 (Wis. Labor & Indus. Review Comm'n Jan. 29, 1999) (ruling that claimant did not establish work-related causation, based in part on doctor's note mentioning "the possibility of making a case either way on causation").

Compare these cases to those in the few jurisdictions that do employ a statutory presumption in favor of work-relatedness. See, e.g., *Hill v. Father Flanagan's Boys' Town*, H&AS No. 99-318, 1999 D.C. Wrk. Comp. LEXIS 481, at *8 (D.C., Office of Employment Servs., Hearings & Adjudication Section Dec. 30, 1999) (finding injury compensable in the absence of sufficient evidence to rebut the statutory presumption).

vincing evidence” that the injury is work-related in order to grant relief.⁷² In tort, of course, the standard for proving causation—and all elements of the claim—is “preponderance of the evidence.” Again, this creates a perverse situation—contrary to the original bargain—in which workers’ compensation claims are significantly more difficult to prove than tort claims. Indeed, meeting the standard of “clear and convincing evidence” has proven to be nearly impossible for cumulative trauma injuries. Because the injury is generally not visible, and occurs gradually, the causal factors are particularly difficult to isolate.

Distinct from the procedural burden of proof, some legislatures and judges have also imposed increased substantive standards of causation.⁷³ Some states have required that work be a “major contributing factor” or account for more than fifty percent of the cause of the injury—greater than the “substantial factor” or “foreseeability” tests used to determine proximate cause in tort.⁷⁴ Because cumulative trauma disorders are gen-

72. For example, the Alabama Workers’ Compensation Act, as amended in 1992, specifies that cases involving injuries which have resulted from “gradual deterioration or cumulative physical stress disorders” will be deemed compensable only upon a finding of “clear and convincing proof” that the injuries were work-related. Ala. Code § 25-5-81(c) (2000). Besides cumulative trauma injuries, other types of injuries or diseases—particularly psychological or heart-related injuries—are sometimes required to meet a higher burden of proof. See, e.g., Fla. Stat. Ann. § 440.09(1) (West Supp. 2000) (“Mental or nervous injuries occurring as a manifestation of an injury compensable under this section shall be demonstrated by clear and convincing evidence.”).

73. See, e.g., New Jersey’s Occupational Disease Law, N.J. Stat. Ann. § 34:15-31(a) (2000) (disease must be “due in a material degree” to work conditions); *Reeves Motor Co. v. Reeves*, 105 A.2d 236, 239 (Md. 1954) (holding that “proximate cause” in workers’ compensation cases “means that the result could have been caused by the accident and that no other efficient cause has intervened”); *Brandt v. Leon Plastics, Inc.*, 483 N.W.2d 523, 525 (Neb. 1992) (defining the requirement of proving “proximate causation” as showing that the repeated traumas contributed “in some material and substantial degree” to the claimant’s injury); *Gilchrist v. Trail King Indus., Inc.*, 612 N.W.2d 1, 3–5 (S.D. 2000) (affirming the Department of Labor’s ruling that the claimant’s carpal tunnel condition was work-related, and noting that the causation requirement is not one of “proximate” cause but rather that the employment was a “contributing factor” to the injury) (citing *Caldwell v. John Morrell & Co.*, 489 N.W.2d 353, 357 (S.D. 1992)); *Rivera v. Cosrich, Inc.*, No. 94-025070, 1998 N.J. Wrk. Comp. LEXIS I04, at *8 (N.J. Dep’t of Labor Div. of Wrk. Comp. Mar. 16, 1998) (employee must show the work was at least a contributing cause of the injury (citing *Coleman v. Cycle Transformer Corp.*, 105 N.J. 285 (1985))); *In re Comp. of Thom*, No. 98-00579, 1999 Or. Wrk. Comp. LEXIS 280, at *4 n.2 (“Because this is an occupational disease claim, claimant must prove that employment conditions were the major contributing cause of the disease . . .” (citing ORS 656.802(2)(a) and (b))); *In re Robert Burton, Jr.*, No. 97-3633, 1998 WA Wrk. Comp. LEXIS 190, at *15 (Wash. Indus. Ins. App. Office Nov. 5, 1998) (holding that claimant did not demonstrate “proximate cause” and that a “temporal relationship” is not enough to sustain claimant’s burden); *Williams v. Cardinal Insulated Glass*, No. 1996046744, 1998 WI Wrk. Comp. LEXIS 346, at *13 (Wis. Labor & Indus. Review Comm’n Dec. 4, 1998) (“The question is whether the applicant’s work activities were a material contributory factor in the onset or progression of her condition.”).

74. For a critical overview of both the substantive and procedural changes, see McCluskey, *supra* note 29, at 788–808.

erally multi-causal, it is extremely difficult to show that work activities—or any one causal agent—accounted for more than fifty percent of the cause of injury. Moreover, most jurisdictions require a “probability,” not just a “possibility,” that work activities caused the disease or injury.⁷⁵ The impact of the recent statutory changes is clear: Workers often will not recover on workers’ compensation claims that would result in employer liability if adjudicated as tort claims.

Certainly legislatures have the authority to make such changes. But any changes must be interpreted through the “original bargain” lens. The intent of the workers’ compensation system was to make proving compensability easier for claimants, while restricting the amount that could be recovered. But this has not happened for CTDs. By refusing to allow inferences, raising the burden of proof, and raising substantive standards for causation, many jurisdictions have made it even more difficult to prove causation for legitimate CTD claimants under workers’ compensation laws than in tort—a result clearly counter to the original bargain.

III. RESTORING THE BARGAIN: A SET OF PROPOSALS FOR CTD CASES UNDER WORKERS’ COMPENSATION

Part III.A of this Note argues for the methodological importance and propriety of using the “original bargain” lens for judicial interpretation of workers’ compensation statutes. This method is particularly appropriate and necessary because of the nature of state workers’ compensation statutes—statutes designed to replace common-law rights and obligations. Part III.B demonstrates how judges can use ergonomic evidence to draw inferences about causation in a way that is consistent with current work-

75. See, e.g., *Decker v. Square D Co.*, 974 S.W.2d 667, 669 (Mo. Ct. App. 1998) (stating that in carpal tunnel syndrome cases, the plaintiff must submit a medical expert who can establish a probability that working conditions caused the disease); *Owen v. American Hydraulics, Inc.*, 578 N.W.2d 57, 63 (Neb. 1998) (“A workers’ compensation award cannot be based on possibility or speculation, and if an inference favorable to the claimant can be reached only on the basis thereof, then the claimant cannot recover.”); *Laffey v. City of Jersey City*, 289 N.J. Super. 292, 308 (App. Div. 1996) (describing the claimants’s burden as one of presenting “sufficient, credible, objective evidence” to allow the compensation court to determine with “cautious reasoned probability” that the occupational exposure caused the disease); *Handy v. Amfibe, Inc.*, No. 179-49-39, 1998 VA Wrk. Comp. LEXIS 4343, at *6-7 (Va. Workers’ Comp. Comm’n Dec. 14, 1998) (“The ‘possibility’ that an injury is related to the employment is not sufficient to produce a compensable claim, the requisite standard being medical ‘probability.’”). But see, e.g., *Wallen v. Salon of Music, Inc.*, 418 So. 2d 421, 421 (Fla. Dist. Ct. App. 1982) (finding that the workers’ compensation commissioner placed “too great a burden of proof as to causation” upon the claimant by denying benefits despite the testimony of two cardiologists that additional stress from a work-related accident “could have contributed” to the onset of claimant’s heart attack).

Common-law and FELA tort cases offer a contrast. In such cases, medical or ergonomic testimony that there is a “possibility” that work activities caused the injury, combined with credible testimony from the claimant, can be enough to allow an inference of causation. See *supra* notes 57-63 and accompanying text.

ers' compensation statutes, developments in common-law tort jurisprudence, and the "original bargain." Part III.C presents a specific burden-shifting framework for treatment of CTDs in workers' compensation cases in order to achieve this end. Part III.D explains the importance of the application of the "exclusive remedy" doctrine as a self-correcting mechanism to ensure appropriate compensation for employees.

A. *Using the "Original Bargain" Lens in Workers' Compensation Cases*

Courts have used the "original bargain" theory in a number of workers' compensation cases as a "purposive" method of statutory interpretation.⁷⁶ With this interpretive method, judges look to the statute's purpose and act as "faithful agents" of—or "cooperative partners" with—the legislature in making decisions.⁷⁷ In doing so, judges have taken notice

76. See *Jonathan Woodner Co. v. Mather*, 210 F.2d 868, 873–74 (D.C. Cir. 1954) ("The rationale underlying these [exclusive remedy] cases, though not articulated, seems clear. . . . The employer has gained an immunity from common law suit. The employee has gained a right to relief even where his injury did not arise through the fault of his employer."); M. Thomas Arnold, *Gradually Developed Disabilities: A Dilemma for Workers' Compensation*, 15 *Akron L. Rev.* 13, 15 (1981); see also *Vigliotti v. K-mart Corp.*, 680 So. 2d 466, 467 (Fla. Dist. Ct. App. 1996) (concluding that strict construction of the term "work performed" would "contravene the legislative intent to ensure the prompt delivery of benefits to the injured worker by an efficient and self-executing system"); *Guilbeaux v. Martin Mills, Inc.*, 640 So. 2d 472, 475 (La. Ct. App. 1994) (interpreting the statutory requirement that an injury be "more than a gradual deterioration or progressive degeneration" as only applying to non-work activity on the grounds that "to interpret it otherwise . . . would lead to an absurd result as it would negate the very purpose for which the Workers' Compensation Act was instituted; namely, to provide relief to employees whose work has caused them injury and the inability to work"); *DesMarais v. Strauss & Troy*, 699 N.E.2d 113, 116 (Ohio Ct. App. 1997) ("Such a result is contrary to the purpose of the workers' compensation statutes, which is to provide compensation for employees injured or disabled because of their employment."); *Eaton v. Quincy*, No. 89 WC 12084, 1999 Ill. Wrk. Comp. LEXIS 44, at *27 (Indus. Comm'n of Ill. May 28, 1999) (Kinnaman, J., dissenting) ("When a firefighter is exposed to noise . . . over a period of 14 years, he is entitled to compensation for the resulting hearing loss. The Legislature could not have meant to deny compensation simply because he failed to show documentation that the noise exposure exceeded 15 minutes on any given day."). But see *Waskiewicz v. General Motors Corp.*, 679 A.2d 1094, 1101–02 (Md. 1996) ("[I]f we held that GM's actions in reassigning Mr. Waskiewicz to job duties he had held in the past constituted a compensable event, we would be in essence writing new legislation.").

77. Purposivism, of course, has been the subject of much debate in legal literature—a full review of which is beyond the scope of this Note. The canonical expression of purposivism is Henry M. Hart, Jr. & Albert M. Sacks, *The Legal Process* 1–4, 1374–80 (William N. Eskridge, Jr. & Philip P. Frickey eds., 1994) (10th ed. 1958). Other leading pieces supporting the method include Guido Calabresi, *A Common Law for the Age of Statutes* 164 (1982) (describing a judge's task as deciding "when a retentionist or a revisionist bias is appropriately applied to an existing statutory or common law rule"); William N. Eskridge, Jr., *Dynamic Statutory Interpretation* 48 (1994) (arguing that statutory interpretation "involves policy choices and discretion by the interpreter over time as she applies the statute to specific problems"); Harlan F. Stone, *The Common Law in the United States*, 50 *Harv. L. Rev.* 4, 15 (1936) (arguing that statutes should be treated like judicial precedents, as a "premise for legal reasoning"). For an overview of current debates

of the remedial nature of workers' compensation statutes⁷⁸ and, in many states, have concluded that the statute should be liberally construed in favor of the employee.⁷⁹ Indeed, judges in at least one state have already narrowly interpreted recent restrictions on CTD compensability in order to uphold the remedial intent of the original statute.⁸⁰ And judges in other jurisdictions have used the "original bargain" lens to indicate that

in statutory interpretation, see Robert A. Katzmann, *Courts and Congress* 46-68 (1997) (surveying purposivism, public choice theory, textualism, and the use of legislative history).

78. See, e.g., *Driscoll v. Gen. Nutrition Corp.*, 752 A.2d 1069, 1073 (Conn. 2000) ("Our Workers' Compensation Act indisputably is a remedial statute that should be construed generously to accomplish its purpose."); *King v. Dep't of Employment Servs.*, 742 A.2d 460, 463 n.1 (D.C. 1999) (noting that the statutory presumption in favor of work-relatedness is "designed to effectuate the humanitarian purposes of the statute" (quoting *Ferreira v. Dep't of Employment Servs.*, 531 A.2d 651, 655 (D.C. 1987))); *Four Star Fabricators, Inc. v. Barrett*, 638 N.E.2d 792, 795 (Ind. Ct. App. 1994) (noting that the "humane purpose" of the Indiana workers' compensation statute requires a broad construction of the phrase "in the course of employment"); *Bilodeau v. Oliver Stores, Inc.*, 352 A.2d 741, 743 (N.H. 1976) ("A workmen's compensation law, remedial in character, is designed to substitute, for unsatisfactory common law remedies in tort, a liability without fault with limited compensation capable of ready and early determination."); *Myers v. State Workmen's Compensation Comm'r*, 239 S.E.2d 124, 126 (W. Va. 1977) (applying this method of interpretation to "give the claimant the benefit of all reasonable inferences"). But see, e.g., *Philip Elecs. N. Am. v. Wright*, 703 A.2d 150, 159 (Md. 1997) (arguing that "the legislature is the appropriate forum to balance the equity or fairness of a particular statutory provision in a workers' compensation scheme"); *Paulson v. Danny's Market, Inc.*, No. 1998 ACO 560, XII-1121, 1998 MIWCLR (LRP) LEXIS 527, at *5 (Workers' Comp. App. Comm'n Sept. 11, 1998) (rejecting the "invitation" of plaintiff's counsel to "biased decision making in favor of her client, advocating the anti-historical contention that the workers' compensation act 'is remedial in nature and should be construed in a liberal and humanitarian manner *in favor of the injured worker*'").

79. See, e.g., *Galloway v. Workers' Comp. Appeals Bd.*, 74 Cal. Rptr. 2d 374, 378 (Cal. Ct. App. 1998) ("The Labor Code and the statutes of limitation relative to that code are to be liberally construed in favor of the protection of employees."); *Driscoll*, 752 A.2d at 1075 (noting the Connecticut Supreme Court's "judicial philosophy of construing access to workers' compensation benefits as broadly as the act will permit"); *Bodily v. John Jump Trucking, Inc.*, 819 P.2d 1262, 1267-71 (Mont. 1991) (applying a liberal construction to the requirements of notice and "time definiteness" for compensation); *Appeal of N.H. Dep't of Health and Human Serv.*, 761 A.2d 431, 433 (N.H. 2000) (noting that the remedial nature of workers' compensation statutes means that "all reasonable doubts . . . will be liberally construed in a manner that favors the injured employee" (quoting *In re Abbott*, 653 A.2d 1113, 1115 (N.H. 1995))); *Rivera v. Cosrich, Inc.*, 1998 N.J. Wrk. Comp. LEXIS 104, at *5 (N.J. Dep't of Labor Div. of Wrk. Comp. Mar. 16, 1998) ("Judges are directed to 'liberally apply [its provisions] . . . to protect employees in the event of work-related injuries . . .'" (quoting *Secor v. Penn Serv. Garage*, 19 N.J. 315, 319 (1955))).

80. Louisiana is the clearest example of this. In 1989, the Louisiana legislature amended the definition of "accident" in their workers' compensation statute to require an "unexpected or unforeseen actual, identifiable, precipitous event happening suddenly or violently" and which is "more than simply a gradual deterioration or progressive degeneration." La. R.S. 23:1021 (2000). The narrower definition of "accident" was clearly aimed at limiting the number of CTD claims. But the courts have continued to interpret "accident" liberally using the original intent of the statute. For example, one court argued that it was inconsistent with the purpose of the "workers' compensation scheme" to deny the claims of workers who were "worn down by their work rather than immediately

the legislature intended the compensation of workplace injuries to be adjudicated in the workers' compensation system, not the tort system.⁸¹

But the nature of the workers' compensation "original bargain"—and its common-law roots—has another set of related implications. First, because workers' compensation statutes displaced the common-law tort system, judges should be reluctant to construe workers' compensation statutes such that they do not provide an adequate substitute for the rights the claimant would have at common-law.⁸² Indeed, early in the history of workers' compensation jurisprudence, the Supreme Court implied that there might be due process limits to the elimination of common-law tort claims.⁸³ Secondly, this method of interpretation is familiar from other contemporary contexts such as judicial scrutiny of the waiver

crippled by it." *Dyson v. State Employees Group Benefits Program*, 610 So. 2d 953, 956 (La. Ct. App. 1992).

Critics say that these judges are flouting the intent of the legislature. See Denis Paul Juge et al., *Cumulative Trauma Disorders—"The Disease of the 90's": An Interdisciplinary Analysis*, 55 La. L. Rev. 895, 898 (1995) ("Despite the determination of the Louisiana Legislature to repel the flow of cumulative trauma claims in Louisiana, the courts have little difficulty in molding the legislative definition of 'accident' to fit their fondness for CTDs.").

81. See, e.g., *Driscoll*, 752 A.2d at 1076 ("[I]t is an essential part of the workers' compensation bargain that an employee . . . relinquishes his or her potentially large common-law tort damages in exchange for relatively quick and certain compensation."); *Vigliotti*, 680 So. 2d at 467 ("We see nothing, however, in the extensive revisions to the Workers' Compensation Law to indicate the Legislature intended to broaden tort liability of employers in this fashion as a solution to the workers' compensation crisis."); *Union Underwear Co. v. Scarce*, 896 S.W.2d 7, 8 (Ky. 1995) ("The primary purpose of the workers' compensation statute is the elimination of common-law actions for personal injuries growing out of industrial operations.").

82. See, e.g., *Bishop v. Jaworski*, 524 A.2d 1102, 1103 (R.I. 1987) ("[S]tatutes in derogation of the common law must be strictly construed."); *Andrade v. State*, 448 A.2d 1293, 1294 (R.I. 1982) ("The waiver of a common-law right inuring to the state, like the waiver of any other known right or privilege should not be lightly inferred." (citing *City of Providence v. Solomon*, 444 A.2d 870, 875 (R.I. 1982))).

83. E.g., *N.Y. Ctr. R.R. Co. v. White*, 243 U.S. 188, 201 (1917) ("Nor is it necessary, for the purposes of the present case, to say that a State might, without violence to the constitutional guaranty of 'due process of law,' suddenly set aside all common-law rules respecting liability as between employer and employee, without providing a reasonably just substitute."). This was the case first upholding the constitutionality of a workers' compensation law in the United States. See also Epstein, *supra* note 19, at 794 n.50 ("The quid pro quo has loomed large in the American constitutional treatment of workers' compensation."). Since the early cases, however, the issue of constitutional limits to workers' compensation laws has not been addressed as frequently. But see *Brady v. Safety-Kleen Corp.*, 576 N.E.2d 722, 728 (Ohio 1991) (holding that an Ohio law limiting the common-law right of employees to bring an intentional tort claim against employers violated the Ohio state constitution); Martha S. Davis, *Workers' Compensation Systems and the Takings Problem: An Essay*, 38 S.D. L. Rev. 234, 271-72 (1993) (arguing that the "quid pro quo" of some workers' compensation systems may constitute a takings under just compensation analysis because of changes in the tort system). For further discussion of *Brady*, see Erika L. Haupt, Comment, *Brady v. Safety-Kleen Corp.: Tipping Ohio's Workers' Compensation Scale in Favor of the Employee*, 54 Ohio St. L.J. 837 (1993).

of common-law rights through private contract in the employment relationship.⁸⁴

Admittedly, the original bargain lens suggested here is counterintuitive. Most originalist forms of interpretation look to the state of the common law at the time when the statute was enacted. In contrast, workers' compensation laws, as statutes that displace and supplement the common law, should be interpreted with reference to the *current* state of the common law.⁸⁵ Judges do use this method of interpretation with other statutory tort-like remedies that displace or supplement the common law under, for example, the federal environmental and civil rights laws.⁸⁶

This method of interpretation is premised on a particular understanding of the bargain: not as a static, one-time settlement occurring when the workers' compensation laws were originally passed in the early part of the twentieth century, but an ongoing trade-off between employees and employers—one that makes it easier to prove liability, but limits

84. Texas courts, for example, have been considering whether employers who do not participate in the Texas workers' compensation system may include waivers in employee benefit plans that prevent employees from bringing negligence claims against their employer. Some courts have held that such a waiver is void and unenforceable because it violates public policy to allow such claims to be waived in exchange for benefits that were "far more limited" than those at common law or under the Texas Workers' Compensation Act. *Controversy Over the Effect of Waivers Used by Nonsubscribers*, 5 *Tex. Monitor* 2, 2 (Spring 2000). The Texas Supreme Court recently ruled that such agreements are not clearly prohibited or clearly allowed by statute, and that a decision on whether or not they violate public policy was better left to the legislature. See *Lawrence v. CDB Services, Inc.*, 2001 *Tex. LEXIS* 21, at *28 (Tex. 2001).

As compared with the review of private contracts between an employer and employees, a court should probably be more deferential when reviewing the adequacy of state workers' compensation statutes as a substitute for common-law rights. But the analysis is similar.

85. Cf. Jack M. Beermann, *A Critical Approach to Section 1983 with Special Attention to Sources of Law*, 42 *Stan. L. Rev.* 51, 61 (1989) ("Because Congress knew that tort rules would evolve, one could argue, it intended that current tort principles continually replace the common-law of 1871 as such common-law became outdated. In that case, the Court would be true to congressional intent in relying on contemporary common-law principles." (discussing section 1983 interpretation)).

86. Section 1983 claims and CERCLA, the Superfund law, are perhaps the best examples. See, e.g., Eric DeGroff, *Raiders of the Lost Arco: Resolving the Partial Settlement Credit Issue in Private Cost Recovery and Contribution Claims Under CERCLA*, 8 *N.Y.U. Envtl. L.J.* 332, 371 (2000) ("The courts have recognized, in CERCLA's legislative history, that Congress expected them to look to common law principles in addressing liability issues left unresolved by the statute itself."); William N. Eskridge, Jr., *Public Values in Statutory Interpretation*, 137 *U. Pa. L. Rev.* 1007, 1052 (1989) (noting that "federal courts routinely look to the common law, which often serves as a presumptive starting place for interpretation" when filling gaps in broadly-worded statutes like § 1983); Michael Wells, *Constitutional Remedies, Section 1983 and the Common Law*, 68 *Miss. L.J.* 157, 158 (1998) ("Since section 1983 does not provide answers to the remedial questions that arise in tort suits, the Supreme Court has looked to the common law in resolving them.").

the amount of damages.⁸⁷ In essence, every current worker, by participating in the workers' compensation system, is trading his common-law right to sue for tort for the swift but limited remedy of workers' compensation. Indeed, the idea of worker choice of remedy is still incorporated into other areas of workers' compensation laws.⁸⁸

The implication of this understanding of the bargain is clear: Workers' compensation jurisprudence must keep pace with developments in common-law tort jurisprudence such that it remains easier to prove compensability in workers' compensation than in the tort system.⁸⁹ When workers' compensation laws were first passed, the mechanism for achieving easier compensability was to remove the requirement that plaintiffs prove fault. But, as demonstrated in Part II, this may no longer be the advantage it once was. In fact, contemporary developments in tort law, particularly the ability to use ergonomic evidence to demonstrate negligence and causation, can put CTD claimants at a distinct disadvantage under workers' compensation compared to tort law. If common-law jurisprudence recognizes new methods of scientific evidence, such as epidemiology or ergonomics, as legitimate ways of allowing inferences of causation, then workers' compensation judges should follow suit.⁹⁰ Otherwise,

87. For another articulation of this concept, see Note, Exceptions to the Exclusive Remedy Requirements of Workers' Compensation Statutes, 96 Harv. L. Rev. 1641, 1656-57 (1983). This author writes:

It is wrong to view the compensation system as a static bargain impervious to societal change. Such a view would dictate that . . . as the tort system improved, workers would be increasingly disadvantaged by a deal originally designed for their benefit. Instead, the bargain must be recalibrated to reflect the changes in the realities of the tort system and the workplace that have made the terms of the original trade off unacceptable.

Id. (citations omitted).

88. For example, workers have the ability to "elect" to pursue workers' compensation claims or a tort claim against a third party such as a manufacturer who may have made a defective product that caused the injury. Arthur Larson & Lex K. Larson, 6 Larson's Workers' Compensation Law, §102-18 to 102-27 (2000).

89. FELA jurisprudence, particularly as explained by the Supreme Court in recent years, has followed this model of looking to common-law developments. See *Consol. Rail Corp. v. Gottshall*, 512 U.S. 532, 557 (1994) ("Our FELA cases require that we look to the common law when considering the right to recover asserted by respondents."); *Atchison, Topeka & Santa Fe Ry. Co. v. Buell*, 480 U.S. 557, 568 (1987) (assuming that "FELA jurisprudence gleans guidance from common-law developments"). As the Third Circuit observed in its treatment of the *Gottshall* case, one consideration into whether the plaintiff has a right to recovery is whether he has a "solid basis in the present state of common-law to permit him to recover." *Gottshall v. Consol. Rail Corp.*, 988 F.2d 355, 371 (quoted in *Gottshall*, 512 U.S. at 563 (Ginsburg, J., dissenting)).

90. The justification used by the Supreme Court in a FELA case more than forty years ago is equally applicable to workers' compensation jurisprudence today. In *Kernan v. Am. Dredging Co.*, the Court held that:

[I]nstead of a detailed statute codifying common-law principles, Congress saw fit to enact a statute of the most general terms, thus leaving in large measure to the courts the duty of fashioning remedies for injured employees in a manner analogous to the development of tort remedies at common law. But it is clear

both employees and employers—depending on the case and the issue—could face disadvantages under workers' compensation in ways that stray from the original bargain of guaranteed compensability but limited damages.⁹¹

An example of how judges can use the "original bargain" lens helps illustrate a way out of this dilemma. In jurisdictions that have raised the procedural burden of proof for certain injuries to "clear and convincing evidence," courts are likely to face the question of whether uncontradicted, credible medical testimony about the possibility that work activities caused the claimant's injury, combined with credible evidence and testimony from the claimant about his work activities, is sufficient for the claimant to carry his burden of proof. The answer is not evident from the statutory language alone. Because of the heightened burden of proof, and the common-law requirement in most jurisdictions that medical testimony indicate a "probability" of work-relatedness, many jurisdictions may be reluctant to grant benefits under this scenario.

The "original bargain" lens sheds light on how to resolve this question. Recognizing that the original bargain was intended to provide

that the general congressional intent was to provide liberal recovery for injured workers, and it is also clear that Congress intended the creation of no static remedy, but one which would be developed and enlarged to meet changing conditions and changing concepts of industry's duty toward its workers.

355 U.S. 426, 432 (1958) (quoted in *Gottshall*, 512 U.S. at 559 (Souter, J., concurring)).

91. Professor Samuel Estreicher, among others, has pointed out the conundrum: The statutes reflected a compromise: the employee was assured a fairly certain recovery, but had to forfeit any civil action and the chance, however unlikely, of obtaining more from a jury. Over time, however, the common law restrictions were swept away, life and limb received higher valuation, and juries became exceptionally generous . . . What had been an unmistakable advance for workers became an anomaly: a source of injustice to employees who are treated less favorably than others suffering similar injuries outside of the employment context.

Samuel Estreicher, *Judicial Nullification: Guido Calabresi's Uncommon Common Law for a Statutory Age*, 57 N.Y.U. L. Rev. 1126, 1134 (1982); see also John G. Culhane, *The Emperor Has No Causation: Exposing a Judicial Misconstruction of Science*, 2 Widener L. Symp. J. 185, 203 n.98 (1997) (arguing for a "liberal" approach to determining whether an illness or injury was work-related based on the idea that in the workers' compensation bargain, the plaintiff "buys" insurance against injury on the job in exchange for giving up the right to sue in tort).

Critics of this approach might take a different view of the "original bargain." Some might say that the original bargain only covered industrial accidents, not occupational disease or gradual injuries occurring from the normal course of work. See, e.g., *Morris v. Morris*, 385 S.E.2d 858, 862 (Va. 1989) (arguing that the original intent of the Virginia Workers' Compensation Act, adopted in 1918, was to provide compensation for "the most frequently recurring kinds of industrial accidents" and denying compensation for gradual injuries). According to this view, any modifications to this bargain must be made explicitly through legislation. Cf. Richard A. Epstein, *A Common Law for Labor Relations: A Critique of the New Deal Labor Legislation*, 92 Yale L.J. 1357, 1358 (1983) (using traditional common-law principles as the appropriate "benchmark" against which to judge "modern statutory schemes").

greater certainty of recovery to employees, while limiting the amount of recovery, judges should assume that the legislature could not have intended to make it more difficult for claimants with legitimate, work-related injuries to prove compensability. The higher burden of proof is ostensibly designed to prevent fraudulent claims, not deny legitimate ones. If the judge is convinced that the injury was work-related, then she must award benefits. However, current workers' compensation jurisprudence about the requirements of medical causation and the ability to draw inferences about causation may make such an award difficult.⁹²

The claim here is not that legislatures lack the authority to change procedural burdens of proof and substantive burdens of causation, or that interpretation of workers' compensation laws must march in lockstep with every development in the common law. The claim is that judges have an obligation to interpret workers' compensation statutes in light of the "original bargain" when deciding close questions of common-law or statutory interpretation. This obligation comes from the dual imperative to interpret statutes in light of their "purpose" so as to avoid unreasonable results, and to avoid eliminating common-law remedies without recognizing the substitute provided by statute. The "original bargain" lens should not be determinative in every case, but it should be an influential perspective for workers' compensation judges deciding close cases—particularly in the context of new challenges to the workers' compensation system like cumulative trauma disorders.

B. *Exploiting the Probative Value of Ergonomic Evidence*

Ergonomics offers a potential way out of the conundrum for workers' compensation judges trying to obey the statutory requirement that the claimant prove work-relatedness, while fulfilling the original bargain of quick but limited compensation for legitimate work-related injuries. By demonstrating the risk factors present in a particular workplace, ergonomic evidence can allow a fact-finder to infer that work activities caused the injury. Crediting such evidence would require a greater receptivity to inferences than many workers' compensation judges have demonstrated, but these kinds of inferences are frequently allowed in common-law tort claims, in occupational disease claims, and even by some workers' compensation judges facing CTD claimants.⁹³

As the common-law tort and FELA cases demonstrate, ergonomic evidence can give rise to an inference of causation in CTD cases. Indeed, ergonomics can play a critical role in both prongs of the legal and medical causation inquiry under workers' compensation. For medical causation, testimony from a doctor or ergonomist regarding the presence of risk factors in a claimant's work activities that are known to cause CTDs can give rise to an inference that the work activity was "in fact" a substan-

92. See *supra* Part II.A.–B.

93. See *supra* Part II.B.1.

tial factor in causing the injury.⁹⁴ In determining legal causation, the equivalent of the “proximate cause” or foreseeability inquiry, the claimant can present evidence that the employer either knew that the claimant’s work activities were likely to cause CTDs based on the existence of an in-house ergonomic program,⁹⁵ or should have known based on industry norms⁹⁶ or government standards.⁹⁷ Such inferences, increasingly common with the acceptance of ergonomics in common-law tort jurisprudence, are equally permissible and necessary in workers’ compensation cases.

The potential role of ergonomics in determining the compensability of CTDs is analogous to that of epidemiology in assessing claims of occupational disease from toxic chemical exposure. Like CTDs, occupational diseases from toxic chemical exposure develop gradually, often take time to manifest themselves, and rarely offer visible signs of the causative agent. By comparing levels of disease among the population exposed to the toxic substance to a corresponding control group, epidemiological evidence offers a way to demonstrate to the fact-finder that it is more

94. See, e.g., *id.* (discussing *Aparicio v. Norfolk & W. Ry. Co.*, 84 F.3d 803 (6th Cir. 1996)); *Aetna Life & Cas. Ins. Co. v. Commonwealth*, 737 N.E.2d 880, 883–84 (Mass. App. Ct. 2000) (noting administrative law judge’s finding that “sitting in one position for extended periods of time against the advice of his doctor, doing the work of a decreasing staff, in an ergonomically inappropriate chair, and for over the period of a year” indicated that the injury was more than “mere wear and tear”).

95. See, e.g., *Mosley v. Excel Corp.*, 109 F.3d 1006, 1015–16 (5th Cir. 1997) (Parker, J., dissenting) (pointing to significant evidence of foreseeability, including evidence of high injury rates which had been reported to Excel, and Excel’s rejection of its own ergonomics expert’s recommendation of rest pauses).

96. See, e.g., *Norfolk & W. Ry. v. Johnson*, 465 S.E.2d 800, 805–06 (Va. 1996) (affirming jury verdict that defendant had actual or constructive knowledge of both industry and medical opinion regarding the relationship between grinder vibration and carpal tunnel syndrome); *Eaton v. Quincy*, No. 89 WC 12084, 1999 Ill. Wrk. Comp. LEXIS 44, at *24 (Indus. Comm’n of Ill. May 28, 1999) (Kinnaman, J., dissenting) (fire chief testified that he was aware of the general problem of hearing loss and firefighters from reading trade magazines). In *Johnson*, the Virginia Supreme Court summarized the ergonomics expert’s testimony on this issue as follows:

Shinnick testified that industry had established methods to prevent occupational carpal tunnel syndrome. These include making an analysis of the tools used and performing an ergonomics study. If the study identifies hazards at the work site, prevention and control is employed, which should include redesigning the tools, redesigning the methods used in performing the work, use of protective equipment . . . , medical tracking of workers, and training and education of employees.

Id. at 804.

97. With the promulgation of ergonomic standards on the federal and state levels, evidence of violations of such standards could be used to support an inference that the claimant’s injury was caused by work. The existence of best-practice guidelines for particular industries can serve a similar function. See *Gutierrez v. Excel Corp.*, 106 F.3d 683, 1997 U.S. App. LEXIS 12984, at *3–*4 (5th Cir. 1997) (noting OSHA guidelines for preventing CTDs, including increasing the number of workers performing a task, designing jobs to allow self-pacing when feasible, implementing job rotation, and designing jobs to allow sufficient rest pauses).

likely than not that exposure to the toxic substance caused the harm.⁹⁸ Although there has been controversy surrounding the use of epidemiological evidence, its acceptance has grown as judges and commentators have recognized that it is often the only credible means of presenting evidence on causation of occupational diseases.⁹⁹

Like epidemiological evidence in occupational disease cases, ergonomic evidence can be used to convince workers' compensation judges that CTDs are work-related.¹⁰⁰ Ergonomic studies can show that workplaces with job rotation, tasks that are performed differently, or increased numbers of workers can have lower rates of CTDs. And specific, job-based ergonomic assessments can demonstrate that the particular claimant's work could have been done differently, with a decreased risk of developing a CTD. This kind of evidence—like epidemiological evidence—can give rise to an inference that the work activity caused the injury.

Allowing these kinds of inferences enables those adjudicating workers' compensation claims to take advantage of new scientific techniques in order to make more accurate determinations of what injuries or illnesses should be compensable. This approach is also consistent with the

98. See, e.g., Steve Gold, Note, Causation in Toxic Torts: Burdens of Proof, Standards of Persuasion, and Statistical Evidence, 96 Yale L.J. 376, 380 (1986) ("Toxic tort litigation . . . involves inferences on causation derived from group-based information, rather than specific conclusions regarding causation in the individual case." (footnotes omitted)); Melissa Moore Thompson, Comment, Causal Inference in Epidemiology: Implications for Toxic Tort Litigation, 71 N.C. L. Rev. 247, 274-78 (1992) (discussing the use of "epidemiology to establish legal cause").

99. See, e.g., Jack B. Weinstein, Preliminary Reflections on the Law's Reaction to Disasters, 11 Colum. J. Envtl. L. 1, 10 n.24 (1986) (noting that specific causal chains are not identifiable in toxic torts); Developments in the Law—Toxic Waste Litigation, 99 Harv. L. Rev. 1458, 1603 (1986) (discussing the problem that "the ambiguous etiology of many diseases associated with exposure to toxic substances and the long latency periods . . . create serious doctrinal and practical problems for the toxic waste victim seeking recovery"); Michael Dore, Comment, A Proposed Standard For Evaluating the Use of Epidemiological Evidence in Toxic Tort and other Personal Injury Cases, 28 How. L.J. 677, 692-93 (1985) (arguing against the use of epidemiology, but acknowledging its likely continued use because of the difficulty in developing direct proof in toxic tort and similar cases); Gold, *supra* note 98, at 379-80 (discussing the use of epidemiological evidence in toxic tort cases).

100. Like epidemiology, testimony from people with expertise in ergonomics is not always admitted under the Supreme Court's *Daubert* standard or given much credence because of the relative novelty of the discipline. But this is increasingly rare. See, e.g., *Stasior v. Nat'l R.R. Passenger Corp.*, 19 F. Supp. 2d 835, 847-51 (N.D. Ill. 1998) (excluding ergonomists' testimony on foreseeability and causation as scientifically unreliable under the *Daubert* standard). But see *Ingram v. Int'l Bhd. of Elec. Workers, Local 2021*, No. 97-6091, 1998 U.S. App. LEXIS 17825, at *13 (10th Cir. 1998) (upholding the decision to deny disability benefits based in part on the report of an ergonomics engineer); *Rodney v. Michelin Tire Corp.*, 466 S.E.2d 357, 359 (S.C. 1996) (crediting testimony by ergonomist that the probability of developing carpal tunnel syndrome is relatively low for person in claimant's position); *Eaton*, 1999 Ill. Wrk. Comp. LEXIS 44, at *20-*22 (relying in part on testimony of industrial hygienist, performing function similar to ergonomics expert).

original bargain because it takes account of common-law developments in how causation can be proven, and provides greater certainty for the compensability of legitimate, work-related CTDs.

C. *Shifting the Bargain Towards Employers in CTD Cases*

In order to uphold the original bargain for CTDs, workers' compensation judges should employ a burden-shifting framework on the issue of "work-relatedness" analogous to that used for Title VII claims. Under this proposal, which could be employed by judges as a matter of common law, the claimant would have the burden of establishing a prima facie case that the injury or illness was work-related. This could be established with medical or ergonomic testimony that there is a *substantial possibility* that the injury is work-related, along with credible testimony from the claimant. Judges should explicitly take into account the difficulty in proving medical causation thus allowing the claimant to use inferences and circumstantial evidence. Because of the nature of CTDs, undisputed medical opinions on causation are entitled to particular deference, regardless of the presence of "objective medical findings."¹⁰¹

Establishing a prima facie case would create a rebuttable presumption that the injury was work-related. The burden would then shift to the employer to prove that the injury was not related to the claimant's work activities. Besides introducing evidence of non-work causes, the employer could then present evidence of ergonomic improvements already made in the workplace,¹⁰² before the injury occurred, shifting the burden back

101. See, e.g., *Brandt v. Leon Plastics, Inc.*, 483 N.W.2d 523, 526 (Neb. 1992) (White, J., dissenting) ("Though judges generally lack the skill and training to competently diagnose the etiology of subjective injuries and disabilities, the majority is determined to anoint them with the power to evaluate the accuracy of uncontroverted opinions rendered by those who are so trained."); *Blaser v. Country Club of Beloit*, Claim No. 1996052288, 1998 WI Wrk. Comp. LEXIS 243, at *3 (Wis. Labor & Indus. Review Comm'n July 29, 1998) ("[S]ome consideration must be given to the special knowledge and role of a medical expert in addressing what is essentially a question of medical expertise."); *Workers' Compensation*, 76 Tex. Jur. §735 (3rd ed. 2000) ("Where causation of a condition is peculiarly within the realm of scientific medical knowledge, the trier of fact is not authorized to make a finding contrary to that made by medical experts, even if merely one such witness testifies."). But this approach has its pitfalls, as the increased use of "independent medical examiners" has shown. See, e.g., *Blaser*, 1998 WI Wrk. Comp. LEXIS 243, at *31 (determining that the independent medical examiner's opinion that the applicant suffered from "borderline diabetes," in the absence of any evidence supporting such a diagnosis, "damages his credibility" and raises doubt about whether he objectively evaluated the applicant "without an underlying agenda").

102. Currently, courts often note evidence of ergonomic improvements. See, e.g., *Chrysler Corp. v. Nolan*, 1996 Del. Super. LEXIS 464, at *4 (Del. Super. Ct. 1996) (noting that Chrysler had performed two ergonomic assessments of the claimant's job to determine whether it would cause physical problems); *Hormel & Co. v. Jordan*, 569 N.W.2d 148, 153 (Iowa 1997) (finding that the "plant manager accommodated [claimant] by assigning tasks that limited strenuous overhead lifting and pushing of heavy tubs"); *Barrilleaux v. Dryades Sav. & Loan Ass'n*, 653 So. 2d 690, 691 (La. Ct. App. 1995) (noting that claimant's supervisor rearranged file boxes so that claimant could access them without

to the claimant. This burden-shifting approach would bring workers' compensation systems closer to the original vision of efficient compensability of legitimate claims.¹⁰³

Indeed, there are existing examples of burden-shifting schemes in workers' compensation law—either written into the statute or created by common law.¹⁰⁴ The District of Columbia's workers' compensation statute, for example, contains a presumption of work-relatedness for all claims.¹⁰⁵ Courts have held that to invoke the presumption, a claimant

lifting); *In re Comp. of Randy C. Ferland*, WCB Case No. 97-08315, 1999 Or. Wrk. Comp. LEXIS 218, at *2 (Or. Wrk. Comp Bd. Mar. 12, 1999) ("During the time claimant installed parts, the employer improved some of the tasks ergonomically.").

103. This proposal is limited to the treatment of CTDs: The consideration of whether it should be extended to all injuries and occupational diseases is beyond the scope of this Note.

Currently, there are different statutory and common-law rules surrounding the treatment of different types of workers' compensation claims—particularly between injuries and occupational diseases, but also specific burdens of proof and evidentiary standards for heart disease, work-related stress, and emotional trauma. Some jurisdictions have alluded to the need for special rules governing CTDs. See, e.g., *Alcan Foil Prod. v. Huff*, 2 S.W.3d 96, 100 (Ky. 1999) ("Despite the number of gradual injury claims and the difficulties encountered in attempting to apply [notice and statute of limitations requirements] to those claims, the legislature has not chosen to create special rules to govern the period of limitations for claims for gradual injury such as exist for occupational disease.").

104. See, e.g., *Clark v. Excel Corp.*, W.C. No. 4-347-891, 1999 Colo. Wrk. Comp. LEXIS 146, at *3 (Colo. Indus. Claim App. Office June 23, 1999) (applying judicially-created rule that "once the claimant establishes that a particular [occupational] disease is to some degree caused, aggravated, or accelerated by occupational hazards, the burden of apportioning disability to non-occupational causes shifts to the respondents"); *Mulvihill v. Stormont-Vail Reg'l Med. Ctr.*, No. 216,062, 1998 KS Wrk. Comp. LEXIS 670, at *5-*6 (Kan. Div. Of Workers' Comp. July 1998), available at <ftp://ftp.hr.state.ks.us/wc/wp> (file named 216062.x) (last visited Feb. 28, 2001) (implicitly shifting the burden to the employer by saying that claimant presented evidence that her symptoms arose from work activity of pushing laundry carts, and then noting that "no evidence has been presented to show claimant's pain originated from any other source"); *Rivera v. Cosrich, Inc.*, 1998 N.J. Wrk. Comp. LEXIS 104, at *8 (shifting the burden of proof to exonerate or mitigate liability to the employer after the employee meets her burden of proof on causation).

105. It states that any claim for compensation "shall be presumed, in the absence of evidence to the contrary: (1) [To come] within the provisions of this chapter." D.C. Code Ann. § 36-321(1) (1981). A few other jurisdictions have used a presumption of work-relatedness, thereby leaving it to the employer to disprove any causal connection between the employment and the disability. See, e.g., *Peirce & Dworkin*, *supra* note 21, at 678 (citing New York, Pennsylvania and Florida); cf. *Dir., Office of Workers' Comp. Programs v. Greenwich Collieries*, 512 U.S. 267, 280 (1994) ("In part due to Congress' recognition that claims such as those involved [under the Longshore and Harbor Workers' Compensation Act and the Black Lung Benefits Act] would be difficult to prove, claimants in adjudications under these statutes benefit from certain statutory presumptions easing their burden.").

One commentator explained such a presumption as a way of dealing with problems of proof:

The presumption of compensability for specified cumulative injuries or diseases recognizes (1) that a generalized causative link exists between the injury or disease and the workplace and (2) that such a causative link will be difficult to

need only present some evidence of an injury, and a work-related event which has the potential to result in or contribute to the injury.¹⁰⁶ Once the presumption is triggered, the burden shifts to the employer to produce substantial evidence that the disability was not work-related.¹⁰⁷ Tennessee also has a workers' compensation approach, formulated by judges through common law, that takes account of medical realities. In Tennessee, a doctor's testimony that work activities "could be" the cause of the injury establishes a prima facie case that, combined with the testimony of the claimant, can be enough to support an award of benefits in the absence of contrary evidence from the employer.¹⁰⁸

This proposal has the benefit of taking full advantage of the potential of ergonomics to demonstrate work-relatedness, as epidemiological evidence has done in occupational disease cases. It takes account of the medical uncertainty surrounding cumulative trauma disorders in a way that places the cost of such uncertainty on the employer, not the employee, for reasons familiar from tort theory: The employer is the cheapest cost avoider and insurer, and is best able to spread costs. The proposed burden-shifting framework would also be more faithful to the fundamental nature of the "original bargain," by recognizing a wider range of claims as compensable but limiting individual compensation amounts.

This proposed scheme rests on acknowledging medical realities and limitations, just as the Title VII burden-shifting scheme is built on recognizing the realities of the workplace.¹⁰⁹ As in workers' compensation stat-

prove. The link is therefore presumed, and the worker compensated, so long as the illness or disease is one that is classified by the workers' compensation system as work-related.

Joseph LaDou, M.D. et al., *Cumulative Injury or Disease Claims: An Attempt to Define Employers' Liability for Workers' Compensation*, 6 Am. J.L. & Med. 1, 21 (1980).

106. See, e.g., *King v. D.C. Dep't of Employment Servs.*, 742 A.2d 460, 469 (D.C. 1999) (stating that the rebuttable presumption of coverage may be invoked by a claimant who presents some evidence of "a death or disability and . . . a work-related event which has the potential to result in or contribute to the death or disability"); *Hill v. Father Flanagan's Boys' Town*, No. 99-318, 1999 D.C. Wrk. Comp. LEXIS 481, at *8 (D.C. Office of Employment Servs. Dec. 30, 1999) (citing *Spartin v. D.C. Dep't of Employment Servs.*, 584 A.2d 564 (D.C. 1990)).

107. See *King*, 742 A.2d at 470 (citing *Brown v. D.C. Dep't of Employment Servs.*, 700 A.2d 787, 791 (D.C. 1997)).

108. See *Tenn. Prot. & Advocacy, Inc. v. Greene*, 2000 Tenn. LEXIS 589, at *11 (Tenn. Oct. 24, 2000) (justifying rule on the basis that "medical witnesses are rarely, if ever, able to state their opinions on medical causation with reasonable certainty").

109. As Justice Souter has pointed out in the workers' compensation context, "the issue of who bears the risk of nonpersuasion raises a traditional 'question of policy and fairness based on experience in . . . different situations.'" *Greenwich Collieries*, 512 U.S. at 295 (Souter, J., dissenting) (quoting *Keyes v. Sch. Dist. No. 1, Denver*, 413 U.S. 189, 209 (1973)). Indeed, taking account of the realities of the modern-day workplace, as well as medical realities, is a well-established technique of interpretation. See, e.g., *Nelson v. Metro-North Commuter R.R.*, 235 F.3d 101, 111 (2d Cir. 2001) (ruling that placing "such a temporal restriction" on recovery for emotional injury tied to physical harm might be

utes, the burden of *proof* in a Title VII case always remains with the plaintiff.¹¹⁰ Within this context, however, the Supreme Court in Title VII cases has outlined a framework where the burden of *production* shifts between plaintiff and defendant during the course of a trial. The Title VII burden-shifting scheme allows plaintiffs to prove a prima facie case through circumstantial evidence because of the difficulty of procuring direct evidence of employment discrimination, and allows factfinders to draw inferences based on commonly held beliefs about how employers make decisions.¹¹¹ Similarly, the burden-shifting framework proposed in this

“incongruous in light of the realities of the modern-day workplace, where exposure to toxic substances that create injury or disease in the future is a major cause of work-related illness and death”).

110. See *Greenwich Collieries*, 512 U.S. at 272–80 for an extended discussion of the history and ambiguity behind the term “burden of proof.” Indeed, in Title VII jurisprudence, the Supreme Court has used “burden of proof” to refer to “burden of production.” See *Wards Cove Packing Co. v. Atonio*, 490 U.S. 642, 660 (1989) (“[T]o the extent that those cases speak of an employer’s ‘burden of proof’ with respect to a legitimate business justification defense . . . they should have been understood to mean an employer’s production—but not persuasion—burden.”).

111. E.g., Robert Belton, *Causation and Burden-Shifting Doctrines in Employment Discrimination Law Revisited: Some Thoughts on Hopkins and Wards Cove*, 64 Tul. L. Rev. 1359, 1364–83 (1990) (describing burden-shifting scheme adopted by the Court in Title VII context); Norma G. White, Note, *St. Mary’s Honor Center v. Hicks: The Title VII Shifting Burden Stays Put*, 25 Loy. U. Chi. L.J. 269, 300–01 (1994) (same). For other examples of burden-shifting frameworks, see *NLRB v. Transp. Mgmt. Corp.*, 462 U.S. 393, 401–03 (1983) (upholding the burden-shifting approach used by the NLRB in “dual motive” cases to determine whether an employee was fired because of antiunion animus on the part of the employer); *Berry v. Schweiker*, 675 F.2d 464, 467 (2d Cir. 1982) (explaining the burden-shifting framework for Social Security disability benefits cases). The NLRB approach is analogous both to the Title VII mixed-motive cases, and to the approach proposed here for CTD workers’ compensation cases: The employee would have the burden of producing evidence that work activities contributed to the injury, and the employer would have the opportunity to persuade the ALJ that the employee would have developed the injury even in the absence of contributing work activities.

The NLRB approach is also an example of administrative agencies using their specialized knowledge to draw inferences when applying established law to the facts of a case when adjudicating a claim. Similarly, workers’ compensation judges also take account of workplace realities on occasion. See, e.g., *Venenga v. John Deere Component Works*, 498 N.W.2d 422, 425 (Iowa Ct. App. 1993) (interpreting the “notice” requirement liberally because the court concluded that it “cannot ignore [the fact] that informing an employer of a work-related injury creates tension between the employee and the employer”); *Guilbeaux v. Martin Mills, Inc.*, 640 So. 2d 472, 476 (La. Ct. App. 1994) (interpreting the “notice” requirement liberally on the grounds that neither the claimant nor any other worker should be “penalized for trying to work as much as he or she can, despite the pain”); *Weise v. Becton-Dickinson Co.*, 4 Neb. Ct. App. 700, 1993 Neb. LEXIS 367, at *22 (1993) (specifying that in determining the “reasonableness of the time interval” between the onset of symptoms and interruption of employment, the ALJ should consider “any economic, family, or personal circumstances compelling [the claimant] to continue working in spite of her condition”); *Clark v. Excel Corp.*, No. 4-347-891, 1999 Colo. Wrk. Comp. LEXIS 146, at *5–*6 (Colo. Indus. Claim App. Office June 23, 1999) (ordering a change in the treating physician because of physician’s “close working and business relationship” with employer). But see *Jiminez v. Schott Bros. Co.*, No. 93-030267, 1998 N.J. Wrk. Comp. LEXIS 90, at *40 (N.J. Div. Of Workers’ Comp. Sept. 10, 1998) (denying claim

Note is based on the premise that there is rarely direct evidence of causation for CTDs because of their gradual, invisible nature.

Some might argue that this proposed burden-shifting approach would simply turn a workers' compensation hearing that would now be a "battle of the dueling doctors" into a battle of the dueling ergonomists. This change, however, would be a welcome development for both policy and institutional reasons. With the current system's focus on medical causation, workers' compensation disputes often turn on technical and uncertain medical questions, providing little incentive for employers to act to prevent injuries.¹¹² In contrast, disputes over how best to design healthy workplaces create powerful incentives for employers to pay close attention to ergonomics. Employers will be on notice that attention to injury prevention will count in their favor, while a lack of attention to ergonomics can be used to hold them responsible under workers' compensation. Further, from an institutional competence perspective, judges are simply better equipped to evaluate steps that employers could have taken in the workplace than they are to evaluate competing medical opinions on what caused a complex type of injury.

D. *Revising the Exclusive Remedy Doctrine*

The lack of compensation for CTDs might not be a problem if workers could bring tort actions for injuries outside the scope of the workers' compensation system. Under the "exclusive remedy" doctrine, employees who get workers' compensation for a particular injury or illness cannot also recover in tort.¹¹³ But by the same token, if a workers' compensation judge decides that a particular claim is not covered under workers' compensation, then the claimant should be able to bring a cause of action under tort law.¹¹⁴ Traditionally, in cases that were categorically excluded from workers' compensation, the tort remedy remained open. Thus,

that workplace caused stress disorder based in part on ALJ's observation that the claimant kept returning to the same job for nineteen years, without acknowledging that she was an immigrant with limited education and skills who one psychologist called "borderline, mildly retarded").

112. There is already a financial incentive for employers because workers' compensation insurance is experience-rated, which means that the premium charged depends on the level of benefit payments. But the empirical evidence regarding the success of experience rating as a prevention tool is mixed. See Terry Thomason et al., *Workers' Compensation: Benefits, Costs, and Safety Under Alternative Insurance Arrangements* 11 (2000).

113. See, for example, Larson & Larson, *supra* note 88, § 100, for an overview of the nature and the scope of the "exclusive remedy" doctrine.

114. See *Boggs v. Blue Diamond Coal Co.*, 590 F.2d 655, 660 (6th Cir. 1979) (approaching the case from the perspective that "every presumption should be on the side of preserving' common law rights in the absence of 'compelling statutory language or social policy justification'" (quoting Arthur Larson, *The Law of Workmen's Compensation* 14-95 (1976))).

most cases on the fringes of workers' compensation jurisdiction involved the *employers* arguing for compensability under workers' compensation.¹¹⁵

But many states, judicially and legislatively, are increasingly interpreting the "exclusive remedy" doctrine to mean that no tort action can be brought based on an injury or illness occurring in the workplace—even if it is not covered under the terms of the workers' compensation statute.¹¹⁶ In fact, several states have recently passed new laws barring virtually any tort actions for workplace injury.¹¹⁷ This is a clear violation of the original bargain—trading away the common-law tort right in exchange for no right to recovery at all.¹¹⁸

Properly understood with reference to the original bargain, the "exclusive remedy" doctrine should operate as a self-correcting mechanism to insure that the workers' compensation system keeps pace with the common law in tort. If CTDs, for example, are not compensable under

115. See, e.g., *Foley v. Honeywell, Inc.*, 488 N.W.2d 268, 270 (Minn. 1992) (agreeing with employer that assault and murder on employee walking to her car after leaving the office arose out of her employment); *Johns-Manville Prods. Corp. v. Superior Court of Contra Costa County*, 612 P.2d 948, 951 (Cal. 1980) (rejecting employer's argument that plaintiff's application for workers' compensation benefits precluded recovery in tort).

116. Note, *Exceptions to the Exclusive Remedy Requirements of Workers' Compensation Statutes*, 96 Harv. L. Rev. 1641, 1654 (1983) [hereinafter *Exceptions*] ("[J]udicial reluctance to adopt exceptions to the exclusive remedy rule has stemmed from an unwillingness to tamper with what courts see as the fixed terms of the carefully designed legislative bargain underlying workers' compensation."). For a recent counterexample, see *Adams v. Alliant Techsystems, Inc.*, 544 S.E. 2d 354, 2001 Va. LEXIS 57, at *9 (Va. 2001) ("To the extent that the field is not touched by the statute, we think that the legislature intended that the employee's common-law remedies against his employer are to be preserved unimpaired.").

117. Martha T. McCluskey, *The Illusion of Efficiency in Workers' Compensation Reform*, 50 Rutgers L. Rev. 657, 790 (1998). A few cases in the early 1980s allowed tort actions for occupational diseases to be brought against employers outside the workers' compensation system on the ground that the injuries were intentionally inflicted. See, e.g., *Johns-Manville*, 612 P.2d at 950 (holding that fraudulent concealment by an employer of worker's condition and its work-related cause was an intentional tort not covered by "exclusive remedy provisions"); *Blankenship v. Cincinnati Milacron Chems., Inc.*, 433 N.E.2d 572, 576 (Ohio 1982) (holding that intentional failure to correct or warn about dangerous conditions was not an "injury" and thus not covered by "exclusive remedy provisions"); see also Richard A. Epstein, *The Historical Origins and Economic Structure of Workers' Compensation Law*, 16 Ga. L. Rev. 775, 814–15 (1982) (arguing that direct tort actions such as those permitted in *Blankenship* and *Johns-Manville* should be rejected under "exclusive remedy" provisions). Some states have written this "intentional tort" exception into statute.

118. Professor Larson's treatise argues:

If . . . the exclusiveness defense is a 'part of the *quid pro quo* by which the sacrifices and gains of employees and employers are to some extent put in balance,' it ought logically to follow that the employer should be spared damage liability only when compensation liability has actually been provided in its place, or, to state the matter from the employee's point of view, rights of action for damages should not be deemed taken away except when something of value has been put in their place.

Larson & Larson, *supra* note 88, § 100-22.

workers' compensation, then workers should be able to bring a tort claim—without being barred by the “exclusive remedy” doctrine.¹¹⁹ If employers begin facing increasing liability under tort from injuries or illnesses occurring in the workplace, then they will no doubt pressure state legislatures to explicitly cover such claims under the terms of the workers' compensation statutes.¹²⁰ This precise chain of events occurred in the past with occupational diseases and is unfolding today, increasingly, with psychological injuries.¹²¹ In the context of cumulative trauma disorders, however, improper application of the “exclusive remedy” doctrine has, in addition to leaving workers without a remedy, disabled the system's mechanism for evolution and self-correction.

CONCLUSION

The original bargain of workers' compensation was premised on the assumptions that for work-related injuries, causation was relatively easy to prove, and that removing the fault requirement eliminated the biggest obstacle to compensability for plaintiffs. For the paradigmatic industrial accident, this premise was no doubt true. But for cumulative trauma disorders, causation can be quite difficult to prove, especially since workers' compensation jurisprudence emphasizes medical causation.

Workers' compensation judges should not hesitate to use the new science of ergonomics to infer that an injury is work-related and therefore compensable. Under the burden-shifting framework presented in this Note, judges can make use of such inferences for the benefit of both employees and employers, achieving results that more closely adhere to the original bargain. Although workers' compensation statutes were writ-

119. See Exceptions, *supra* note 116, at 1657 (“Courts interpreting and applying workers' compensation statutes can accomplish part of this adjustment by applying the exclusive remedy rule more selectively and not merely assuming that tort remedies are precluded.”).

120. In response to potential tort liability, business lobbyists in some states have prodded legislatures to cover CTDs nominally, keeping the claims outside of the tort system, but making it difficult to recover in workers' compensation with higher burdens of proof. See Burton & Spieler, *supra* note 40, at 221 (discussing the Virginia legislature's amendment to the workers' compensation statute to provide “nominal, but very narrow” coverage for CTDs).

121. See Larson & Larson, *supra* note 88, § 100-25 (noting that “[b]efore occupational diseases were specifically made compensable, and in jurisdictions where they are still noncompensable,” courts have usually held that employees could sue at common law). An Ohio court used similar reasoning in a case involving psychological injuries: If a psychological injury is not an injury according to the statutory definition of ‘injury,’ then it is not among the class of injuries from which employers are immune from suit. Any other interpretation is nonsensical The lower court decisions remove psychological injuries from the trade-off between employers and employees—employees relinquish their common-law remedies for psychological injuries in return for nothing. That is antithetical to the philosophical underpinnings of the system.

Bunger v. Lawson Co., 696 N.E.2d 1029, 1031–32 (Ohio 1998).

ten in the early part of the twentieth century, their application and interpretation must be adapted to modern-day understandings of science, medicine, and the workplace. Judicial reliance on the principles of ergonomics to inform the laws of workers' compensation would be an important step towards achieving that goal.